

Taxonomic review of the Neotropical spider genus *Paradosenus* (Araneae: Lycosoidea: Trechaleidae: Trechaleinae) with a new erection of the subfamily Trechaleinae and a key to included genera

James E. Carico¹: School of Sciences, Lynchburg College, 1501 Lakeside Drive, Lynchburg, Virginia 24501, USA

Estevam Luís Cruz da Silva: Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS), Museu de Ciências e Tecnologia (MCTP), Laboratório de Aracnologia, Porto Alegre, RS, Brazil. E-mail: estevamsilva@gmail.com

Abstract. The Neotropical spider genus *Paradosenus* is revised and currently comprises a total of 14 species. *P. andinus* (Simon 1898), *P. protentus* (Karsch 1879) and *P. venezuelanus* (Simon 1898) are new junior synonyms of *P. longipes* (Taczanowski 1874), the type species of the genus. Five known species, *P. longipes*, *P. caricoi* Sierwald 1993, *P. pulcher* Sierwald 1993, *P. corumba* Brescovit & Raizer 2000, and *P. minimus* (Mello-Leitão 1940), are redescribed and illustrated. New species: *P. isthmus*, *P. benicito*, *P. amazonensis*, *P. acanthocymbium*, *P. tocantins* and *P. pozo* are described from both male and female. The new species *P. sabana* is described only from the male while *P. junin* is described only from the female. The subfamily Trechaleinae is erected, diagnosed, and an illustrated key to all the included genera is presented.

Keywords: New species, taxonomy, Neotropical region

The genus *Paradosenus* was described by F.O. Pickard-Cambridge (1903) originally as a genus in the family Pisauridae. Following the reintroduction (Carico 1981) of Simon's (1890) family, Trechaleidae, the genus was subsequently transferred to the latter family (Carico 1993; Sierwald 1993). Sierwald (1993) in the first taxonomic revision of the genus *Paradosenus*, found synonymies and described two new species, *P. pulcher* and *P. caricoi*. In addition, she included an opinion on the taxonomic position of the subfamily Rhoicininae in the Trechaleidae, pointed out the synonymy of *Xingusiella* (Mello-Leitão 1940) with *Paradosenus*, and discussed synapomorphies of the female genitalia in the family Trechaleidae. Brescovit et al. (2000) redescribed the recently rediscovered *P. minimus* (Mello-Leitão 1940), and included notes on the distribution and morphology of *P. longipes* (Taczanowski 1874). In this same paper, the latter authors also described *P. corumba* and included notes on the web-building behavior and ecology of this species.

The current paper reviews the taxonomy of the genus *Paradosenus*, a project made possible as a result of numerous new collections available through the cooperation of several museums, particularly those in South America. In addition, we describe the new subfamily, Trechaleinae, to include that group of non-Rhoicininae genera that has been identified as the core group of genera of the family from the beginning, as well as some new ones. Because we believe that the maturity level of the taxonomy of this subfamily sufficiently warrants it following recent generic revisions of all polytypic genera, we offer a diagnostic key to the genera of the same subfamily. However, because of the lack of females in three monotypic genera, it is obvious that this key will be substantially improved as these sexes are discovered as well as by any new genera and species which may be found subsequently.

METHODS

The material examined belongs to the following institutions: American Museum of Natural History, New York (AMNH); British Museum of Natural History, London (BMNH);

California Academy of Science, San Francisco (CAS); Instituto Butantan, São Paulo (IBSP); Field Museum of Natural History, Chicago (FMNH); Polish Academy of Science, Museum of the Institute of Zoology Warsaw (PAN); Museo Argentino de Ciencias Naturales Bernardino Rivadavia, Division Entomologia, Buenos Aires (MACN); Museu de Ciências Naturais, Fundação Zoobotânica do Rio Grande do Sul, Porto Alegre (MCN); Museu de Ciências e Tecnologia da Pontifícia Universidade Católica do Rio Grande do Sul – PUCRS, Porto Alegre (MCTP); Museum of Comparative Zoology, Cambridge, Massachusetts (MCZ); Museu Equitatorio Ciências Naturales, Quito, Ecuador (MECN); Muséum National d'Histoire Naturelle, Paris (MNHN); Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ); Laboratório de Aracnologia da Universidade Federal de Minas Gerais, Belo Horizonte, Brazil (LAMG); Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima (MUSM); Museo Zoológico “La Specola”, Firenze (MZUF); Museu de Zoologia da Universidade de São Paulo, Brazil (MZSP); Zoologisches Museum der Humboldt Universität, Museum für Naturkunde der Humboldt Universität, Berlin (ZMHU).

All measurements are in mm. As an index to the size of the body, only the length of the relatively rigid carapace is given because of variability in the condition of the softer abdomen. Following critical point drying, the scanning electron micrographs (SEM) were made with a Philips XL 30 scanning electron microscope in the Centro de Microscopia e Microanálises (CEMM) of Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS).

The nomenclature and anatomy of the male palpus and female epigynal structures follows Carico (1993), Silva et al. (2008) and Sierwald (1993). Abbreviations are used throughout the manuscript: AE, anterior eyes, or length of anterior eye row; AF, anterior field of epigynum; ALE, anterior lateral eyes; AME, anterior median eyes; AS, accessory spermathecae; CO, copulatory ducts; D, duct; DD, dorsal division of median apophysis; E, embolus; ECD, ectal division of retrolateral tibial apophysis (RTA); END, ental division of

¹ Deceased 24 March 2009

RTA; G, guide, terminal portion of median apophysis; HS, head of spermathecae; LL, lateral lobes of epigynum; MA, median apophysis; MF, middle field of epigynum; OQA, anterior part of ocular quadrangle, or length of line composed of anterior median eyes; OQH, ocular quadrangle height, or length of a line composed of anterior median eye and posterior median eye; OQP, posterior part of ocular quadrangle, or length of line composed of posterior median eyes; PE, posterior eyes, or length of posterior eye row; PLE, posterior lateral eyes; PME, posterior median eyes; RTA retrolateral tibial apophysis of male palpal tibia; S, spermathecae; ST, subtegulum; T, tegulum; VD, ventral division of median apophysis; VP, ventral protuberance of male palpal tibia; W, wings.

TAXONOMY

Family Trechaleidae Simon 1890

Diagnosis.—The spider family Trechaleidae is defined as follows: eyes arranged in two rows, tibial apophysis and a ventro-distal refolded rim on male palpal tibia; male palpus with a large median apophysis with a dorsal embolic groove extending into the guide; female epigynum generally heavily sclerotized, dark and opaque; epigynal plate conspicuous, anterior field wide and usually distinct from the lateral lobes. Female builds discoid and flattened egg sac, fixed and carried on the spinnerets (Carico 1993; Silva et al. 2008).

Subfamily Trechaleinae Simon 1890

Type genus.—*Trechalea* Thorell 1869

Note.—Since in the original description of the family Trechaleidae there is no mention of a name for a subfamily, because when the subfamily Rhoicininae was included in Trechaleidae (Griswold 1993; Sierwald 1993) it presented a group of genera included in Rhoicininae and the remaining genera were not included in any named subfamily, we felt the need to erect a name of a subfamily to include these remaining genera.

Diagnosis.—The subfamily Trechaleinae can be securely distinguished from the subfamily Rhoicininae by characters of the eye pattern and male palpus. The tibia of the male pedipalp in the Trechaleinae has a well-developed retrolateral apophysis composed of either a single part or a pair of subdivisions; a retrolateral apophysis is lacking in the Rhoicininae. The width of the anterior eye row is equal to or only slightly larger than the length of the posterior median row of eyes, and the anterior lateral eyes are always smaller than the anterior median eyes. In the Rhoicininae the anterior eye row is distinctly wider than the posterior median eye row, and if it is narrower, then the anterior lateral eyes are smaller than the anterior median eyes.

Description.—Eye pattern in two rows, PE row recurved, wider than AE row, width of anterior eye row equal to or only slightly greater than length of posterior ocular quadrangle, ALE often situated adjacent to and beneath PLE, PE equal in size and larger than AE, ALE smaller than AME, AME/ALE interdistance separated by less than the diameter of ALE and less than AME/AME interdistance. Palpal bulb in ventral view in three distinct and consistent subdivisions; subtegulum smaller than tegulum and situated slightly prolaterally; tegulum extending diagonally over full width of bulb face

and median apophysis apical, variable but divided into ventral and dorsal divisions with the guide tip located on the dorsal division and usually visible as a short, acute point. The RTA is located on the distal rim of the tibia; a broad, membranous concavity is present on the ventro-distal end of the tibia.

PLACEMENT OF GENERA INTO SUBFAMILIES

Genera included in the subfamily Rhoicininae.—Since the introduction of this subfamily by Simon (1898a) as a group within the Lycosidae, it has been moved to other families including the Agelenidae (Petrunkévitch 1928), the Pisauridae (Exline 1950, 1960), and currently the Trechaleidae (Griswold 1993; Sierwald 1993; Brescovit & Höfer 1994). Genera currently (Platnick 2009) in the Rhoicininae are *Barrisca* Chamberlin & Ivie 1936 (generic revision, see Platnick 1979), *Heidruna* Brescovit & Höfer 1994, *Rhoicinus* Simon 1898a (generic revision, see Exline 1950), *Shinobius* Yaginuma 1991, none of which possess the combination of characters that define the Trechaleinae (see diagnosis in this paper).

Genera included in the subfamily Trechaleinae.—We place the following genera into the subfamily Trechaleinae: *Amapalea* Silva & Lise 2006, *Caricelea* Silva & Lise 2007, *Dossenus* Simon 1898b (generic revision, see Silva et al. 2007), *Dyrines* Simon 1903 (generic revision, see Carico & Silva 2008), *Enna* O. Pickard-Cambridge 1897 (generic revision, see Silva, et al. 2008), *Hesydrus* Simon 1898a (generic revision, see Carico 2005a), *Magnichela* Silva & Lise 2006, *Paradosenus* F.O. Pickard-Cambridge 1903 (generic revisions, see Sierwald 1993; current paper), *Paratrechalea* Carico 2005b, *Syntrechalea* F.O. Pickard-Cambridge 1902 (generic revision, see Carico 2008b), *Trechalea* Thorell 1869 (generic revision, see Carico 1993) and *Trechaleoides* Carico 2005b. For a diagnostic key to the identification of the genera in the subfamily Trechaleinae, see Appendix I.

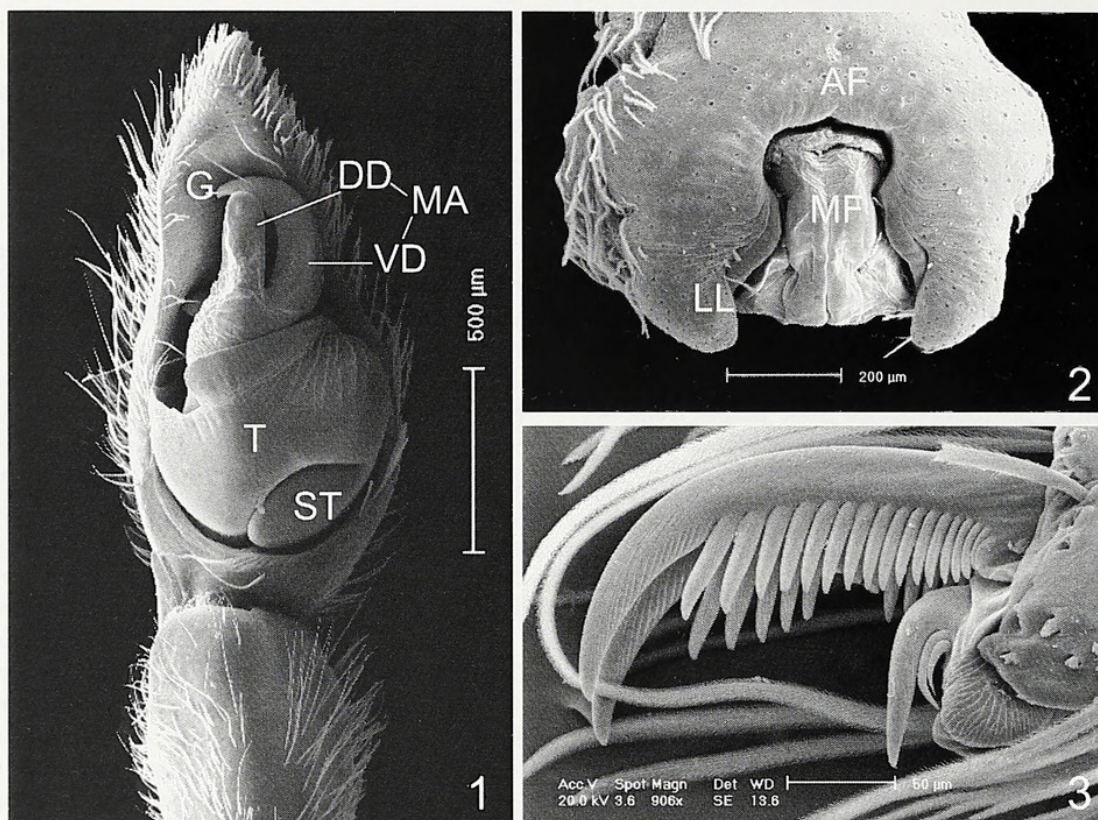
Genus excluded from the Trechaleinae.—*Neoctenus* Simon 1897, which has been a matter of considerable dispute (see review in Platnick 2009) regarding its family placement, is excluded here from the subfamily Trechaleinae and the diagnostic key below because it does not comply with the character set used to define Trechaleinae. Further, it is not our objective in this study to confirm or dispute the taxonomic position of *Neoctenus* in any family or subfamily.

Genus *Paradosenus* F.O. Pickard-Cambridge 1903

Paradosenus F.O. Pickard-Cambridge 1903:155; Roewer 1954:139; Bonnet 1958:3325; Carico 1993:226; Sierwald 1993:53–74; Brescovit, et al. 2000:7–15; Platnick 2009. *Xingusiella* Mello-Leitão 1940:23, fig. 1 (junior synonym of *Paradosenus*); Sierwald 1993:55; Platnick 2009.

Type species.—*Paradosenus longipes* (Taczanowski 1874).

Diagnosis.—This genus resembles *Dossenus* Simon 1898 by the absence of the ental division (END) of the retrolateral tibial apophysis (RTA) (Figs. 6, 12, 22, 26, 31, 44, 48), but can be distinguished by the combination of the following characters: metatarsi and tarsi of the legs are straight and neither bent nor flexible as in some other relatively typical trechaleid genera; i.e., *Trechalea* Thorell 1869 and *Hesydrus* Simon 1898. Males are distinguished by the presence of a conspicuous ectal division of the RTA (ECD), not divided, except in *P. amazonensis* and *P. acanthocymbium* (Figs. 35,



Figures 1–3.—*Paradossenus longipes*. 1. Left male pedipalpus (reversed), ventral view; 2. Female epigynum, ventral view; 3. Tarsal claw, left leg; IV, lateral view. Abbreviations: AF, anterior field of epigynum; DD, dorsal division of median apophysis; G, guide, terminal portion of median apophysis; MA, median apophysis; MF, middle field of epigynum; ST, subtegulum; T, tegulum; VD, ventral division of median apophysis.

39), which is slender, acute and sometimes somewhat curved (Figs. 6, 12, 22, 26, 31, 44, 48). The female epigynum has a distinct middle field that is situated between a pair of distinct lateral elevations; internally there is wide variation, with the presence of conspicuous spermathecae and the presence of an accessory spermathecae (except in *P. pozo*, Fig. 50) attached to a sclerotized arch with membranous wings (W) (except in *P. corumba*, *P. pulcher* and *P. benicito*) (Figs. 8, 14, 16, 18, 20, 24, 28, 33, 37, 42, 46).

Description.—Carapace moderately high to low, height of cephalic area higher or not, length 1.7–4.4, AE row slightly procurved. Sternum about as long as wide, almost always unmarked. Paturon generally swollen anteriorly, with a diagonal groove above fang origin (Fig. 22); chelicerae with promargin typically with three teeth with middle largest (none in *P. acanthocymbium*); retromarginal teeth variable from three to 4. Median apophysis of male palpus conspicuous, (Fig. 1) with short, curved guide arising from dorsal division; ventral division variable, typically rounded on retrolateral edge (except *P. corumba*); tibia shorter than cymbium and with a single, narrow, tapered retrolateral apophysis (except *P. amazonensis* and *P. acanthocymbium*, which have an additional, small, proximal projection). Female epigynum, in ventral view, with a distinct but variable middle field and lobular lateral elevations (Figs. 7, 13, 15, 17, 19, 23, 27, 32, 36, 41, 45, 49); internal components very variable but usually with small spermathecae and large accessory spermathecae (Figs. 8, 14, 16, 18, 20, 24, 28, 33, 37, 42, 46, 50).

Distribution.—The genus *Paradossenus* extends from south-eastern Nicaragua southward to northern Uruguay, and

locality labels with specimens commonly include names of streams suggesting that aquatic habitats are essential for their occurrence (Fig. 4).

Paradossenus longipes (Taczanowski 1874)

Figs. 1–9

Dolomedes longipes Taczanowski 1874:88.

Hygropoda andina Simon 1898a:316, 1898b:22; Roewer 1954:138; Bonnet 1957:2243.

Paradossenus andinus Carico 1993:231; Platnick 2009. New synonymy.

Paradossenus nigricans F.O. Pickard-Cambridge 1903 (= *P. longipes*, Sierwald 1993:57); Roewer 1954:139; Bonnet 1958:3325.

Paradossenus taczanowskii Caporiacco 1948:631 (= *P. longipes*, Sierwald 1990:35).

Trechalea protenta Karsch 1879:540.

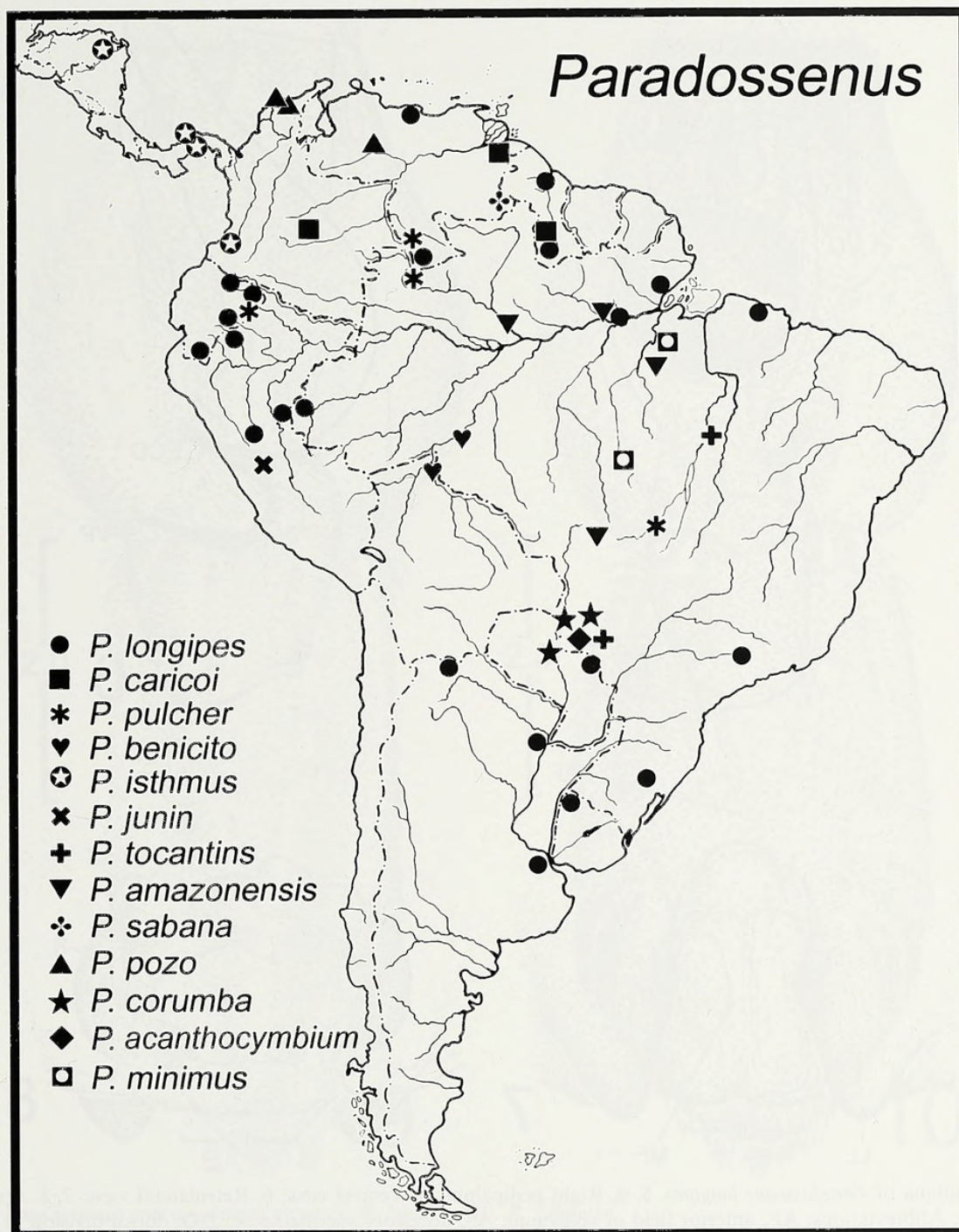
Paradossenus protentus Carico 1993:231; Platnick 2009. New synonymy.

Hygropoda venezuelana Simon 1898b:22; Roewer 1954:138; Bonnet 1957:2244.

Paradossenus venezuelanus Carico 1993:231; Platnick 2009. New synonymy.

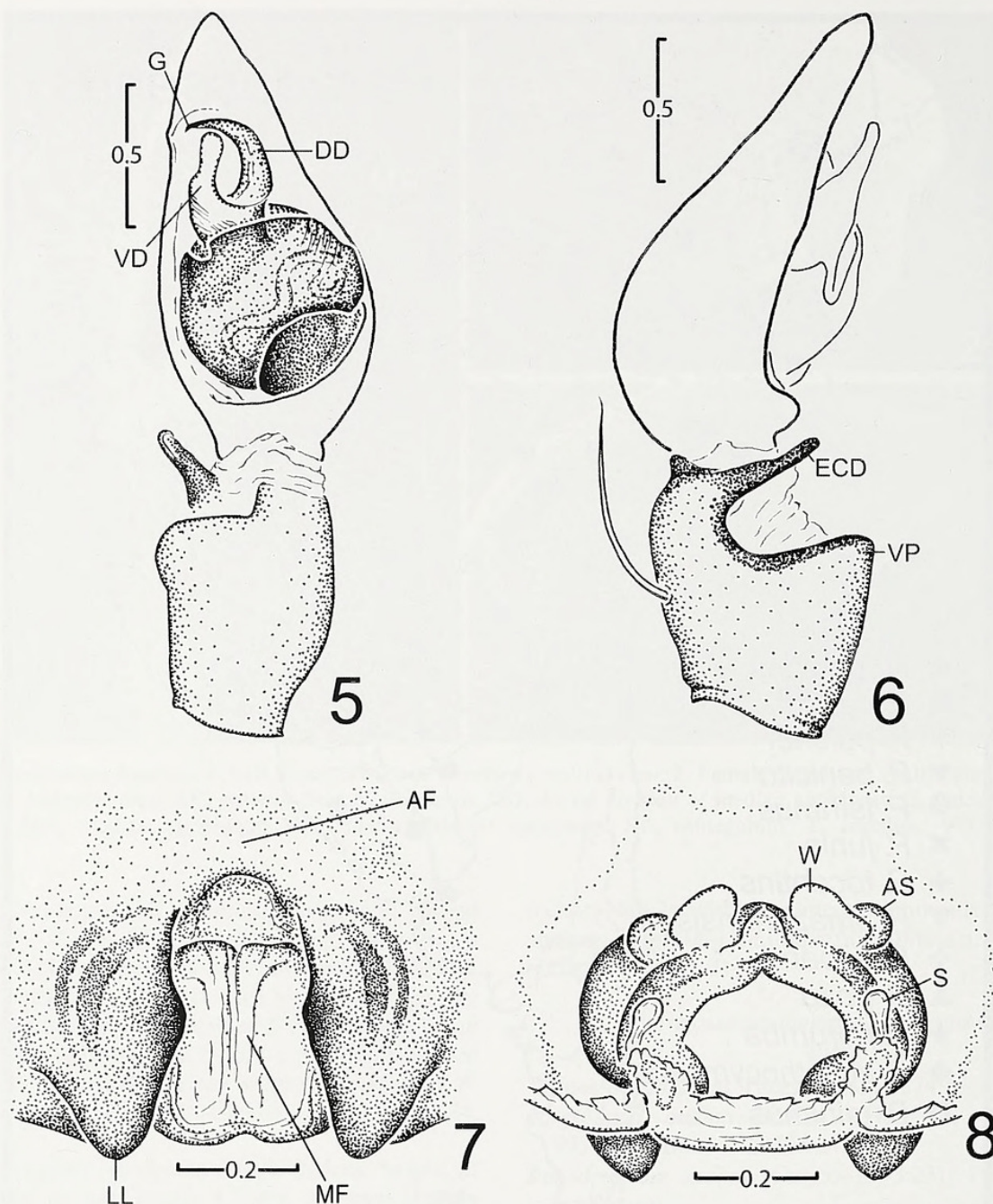
Type material.—Female lectotype, male paralectotype: FRENCH GUIANA: Cayenne, K. Jelski (PAN), examined.

Other material examined:—ARGENTINA: *Chaco*, 2 females, Selva del Rio de Oro, 27°04'S, 58°34'W, 27 January 1965, Galiano (MLP); *Parque*, "Islas Malvinas" (Mnes.), 1 female, 2 February 1988, Goloboff & Szumik (MACN); *Salta*,

Figure 4.—Distribution of species of *Paradosenus*.

Rinadavia, Santa Victoria, 22°11'S, 64°45'W, 1 female, June 1961, Bachman (MACN); *Misiones*, 1 female, 3–12 December 1989, Garabi (MCTP 1289); Ste Maria, 22°11'S, 64°45'W, 1 female, no date, Sciap. Delan. etc. (MACN); *Buenos Aires*, Carapachay, km. 10 Delta, Bs. Is., 34°25'S, 58°35'W, 1 male, 2 females, December 1986, Goloboff (MACN). BRAZIL: *Amazonas*, Manaus, Reserva Florestal Adolpho Ducke, 3°06'S, 60°01'W, 1 female, 8 April 1992, S. Darwich (MCTP 2846); 1 female, 8 April 1992, U. Barbosa (MCTP 2719); 1 female, 8 April 1992, S. Darwich (MCTP 2718); Rio Purus, NW of Sena Madureira, Boca do Matapa, 1°54'S, 53°29'W, 1 male, 22 September 1973, B. Patterson (MCZ); *Acré*, Rio Purus, NW of Sena Madureira, Seringal Santo Antonio

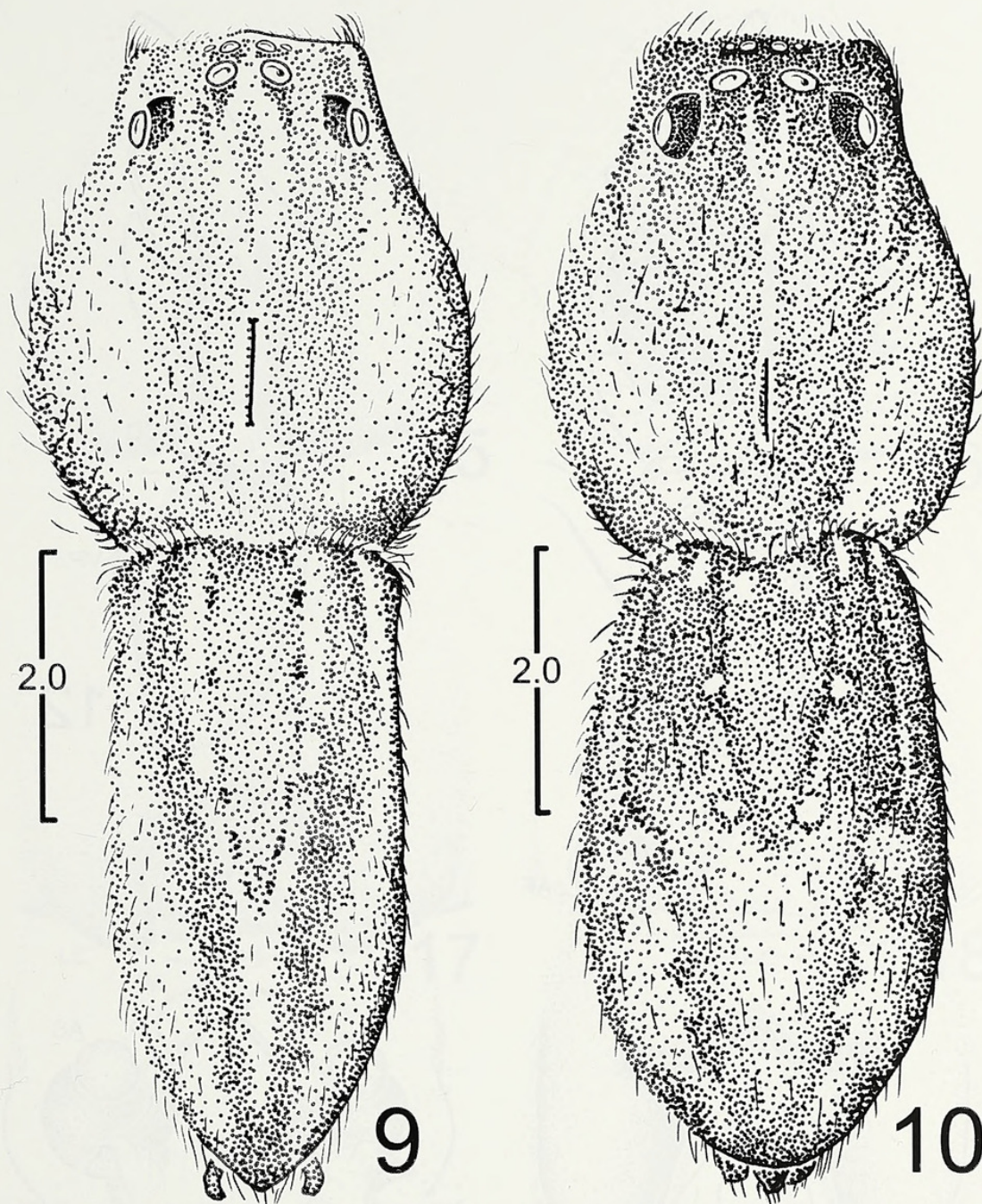
(above Manuel Urbana), 8°13'S, 72°59'W, 1 female, 15–18 September 1973, B. Patterson (MCZ); *Pará*, Canindé, Rio Gurupi, 0°31'S, 51°14'W, 1 male, 27–31 October 1964, B. Malkin (AMNH); 2 females, 3–11 June 1963, B. Malkin (AMNH); Rio Gurupi, 1°13'S, 46°06'W, 1 female, 7–15 April 1963, B. Malkin (AMNH); *Mato Grosso*, Barra do Taparape, 1 female, 17 December 1963–2 February 1964, B. Malkin (AMNH); Usina Hidrelétrica Guaporé, 15°58'S, 59°53'W, 1 female, 4–14 October 2002, Operação Coatá (MCTP 17586); *Minas Gerais*: Santana do Riacho, Parque Nacional da Serra do Cipó, Rio do Peixe, 1 male, 2 females, 10–14 February 2001, E.S.S. Álvarez (LAMG 568); *São Paulo*: Pirassununga, Rio dos Cocais, 21°59'S, 47°25'W, 1 female, 1 March 1940,



Figures 5–8.—Genitalia of *Paradossenus longipes*. 5, 6. Right pedipalpus; 5. Ventral view; 6. Retrolateral view; 7, 8. Epigynum; 7. Ventral view; 8. Dorsal view. Abbreviations: AF, anterior field of epigynum; AS, accessory spermathecae; DD, dorsal division of median apophysis; ECD, ectal division of retrolateral tibial apophysis (RTA); G, guide, terminal portion of median apophysis; LL, lateral lobes of epigynum; MF, middle field of epigynum; S, spermathecae; VD, ventral division of median apophysis; VP, ventral protuberance of male palpal tibia; W, wings.

Schulbart (MZSP 7073); Mogi Guaçu, Rio Mogiguaçu, 22°22'S, 46°56'W, 1 female, 18 October 1940, Schulbart (MZSP 7146); *Rio Grande do Sul*: Sapiranga, Arroio Feitoria, 29°35'S, 51°15'W, 1 female, 23 February 2004, E.L.C. Silva (MCTP 16571); 2 females, 23 February 2006, E.L.C. Silva (MCTP 21718); 1 female, 20 February 2008, E.L.C. Silva (MCTP 21719); 1 male, 1 female, 31 January 2004, E.L.C. Silva (MCTP 21720); 1 male, 2 females, February 2008, E.L.C. Silva (MCN 37300); Mampituba, Rio Mampituba, 29°10'S, 49°43'W, 1 male, 1 female, 26 March 2006, E.L.C. Silva (MCTP 0870); Rio Uruguai, BR-153, 34°12'S, 58°18'W, 1 male, February 1989, Itá-Machadinho (MCTP 1296); Estrela Velha, Barragem Itaúba, 29°10'S, 53°09'W, 1 female, 8 March

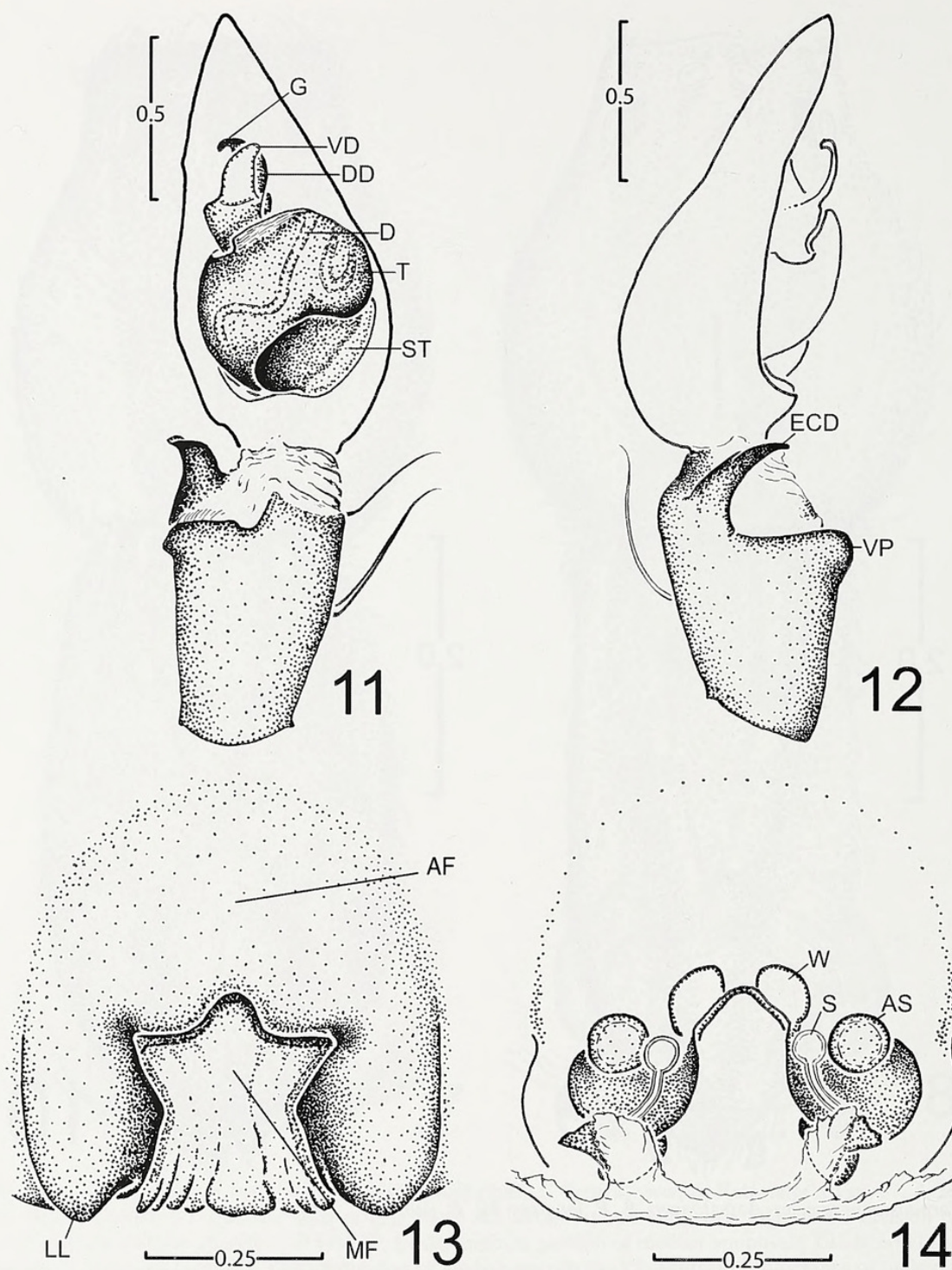
2001, R. Ott (MCN 33722); 2 females, 6 March 2001, R. Ott (MCN 33684); Porto Alegre, Ilha do Laje, 29°57'S, 51°16'W, 1 female, 22 March 1983, J.E. Lang (MCN 11486); Ilha das Flores, 29°59'S, 51°15'W, 2 females, 17 June 1992, C.S. Bastos (MCN 10487); São Leopoldo, 30°05'S, 51°36'W, 1 female, 6 August 1982, C.J. Becker (MCN 10663); 2 females, 25 March 1983, C.J. Becker (MCN 11518); 1 female, 17 March 1965, C. Valle (MZSP 4796); Eldorado do Sul, Parque Estadual Delta do Jacuí, 30°05'S, 51°36'W, 1 female, 5 January 2000, A. Barcelos (MCN 32095); Triunfo, 29°56'S, 51°43'W, 1 female, 12 January 1989, H.A. Gastal (MCN 18086); Pinhal Grande, Rio Jacuí, 29°16'S, 53°20'W, 1 female, 7 May 1998, M.A.L. Marques (MCN 29390); Terra de Areia, Rio dos Pintos,



Figures 9–10.—*Paradosenus* species, dorsal views. 9. *P. longipes*; 10. *P. isthmus*.

29°35'S, 50°04'W, 1 male, 27 December 2002, E.L.C. Silva (MCN 37301); Júlio de Castilhos, Barragem Itaúba, 29°16'S, 53°20'W, 1 female, 22 October 1998, L. Moura (MCN 30604). ECUADOR: *Napo*, R.F. Cuyabeno, Rio Cuyabeno, 0°16'S, 75°53'W, 1 female, 25 July 1985, L. Avilés (MECN); *Pastaza*, Cusuimi, on Rio Cusuimi, 150 km SE Puyo, 2°48'S, 77°38'W, 1 male, 15–31 June 1971 (also 15–22 May 1971), W.B. Malkin (FMNH); *Sucumbios*, Lago Agrio nr. Entrance to Cuyabeno, 0°06'N, 76°54'W, 2 females, 20–30 September, V. Roth (CAS). GUYANA: *Upper Takutu-Upper Essequibo*, Kkuyu-wimi River. From K Landing to Essequibo River, 7°02'N, 58°27'W, 1 male, 2 females, 1 juvenile, 1–8 December 1937, W.G. Hassler (AMNH); Shudicar River, Upper Essequibo River, 1 female, 1 January 1938, W.B. Hassler (AMNH); *Cuyuni-Mazaruni*, Bartica District, Kartabo, 6°24'N,

58°37'W, 1 female, unknown date, W. Beebe #22467 (AMNH); 1921, Beebe (AMNH); 1 female, 1924, unknown collector, (AMNH); (*unknown province*), Onoro Region, 1°37'N, 58°38'W, 1 female, 13–18 December 1937, W.G. Hassler (AMNH). PARAGUAY: *Amambay*, near Pedro Juan Caballero, 22°34'S, 55°37'W, 1 female, 25–27, November 1956, C.J.D. Brown (MCZ); *Paraguari*, ca. Ybytymi, 25°46'S, 56°47'W, 1 female, 1957, J.P. Rivaldi (AMNH). PERU: *Madre de Dios*, Rewervada de Manu, Puesto de Vigil. Pakitza, quebrada Il Bano, 11°58'S, 71°18'W, 1 female, 5 October 1987, D. Silva & J. Coddington; *Loreto*, Alto Amazonas, Pastaza, 4°55'S, 76°24'W, 1 female, October 1973, J.C. Olin (MCZ); Caballococha, 1 male, no date and collector (MUSM #00500058); *Huanuco*, Monson Valley, Tingo Maria, 9°17' 76°00' W, 1 female, 19 November 1954, E.I. Schlinger & E.S.

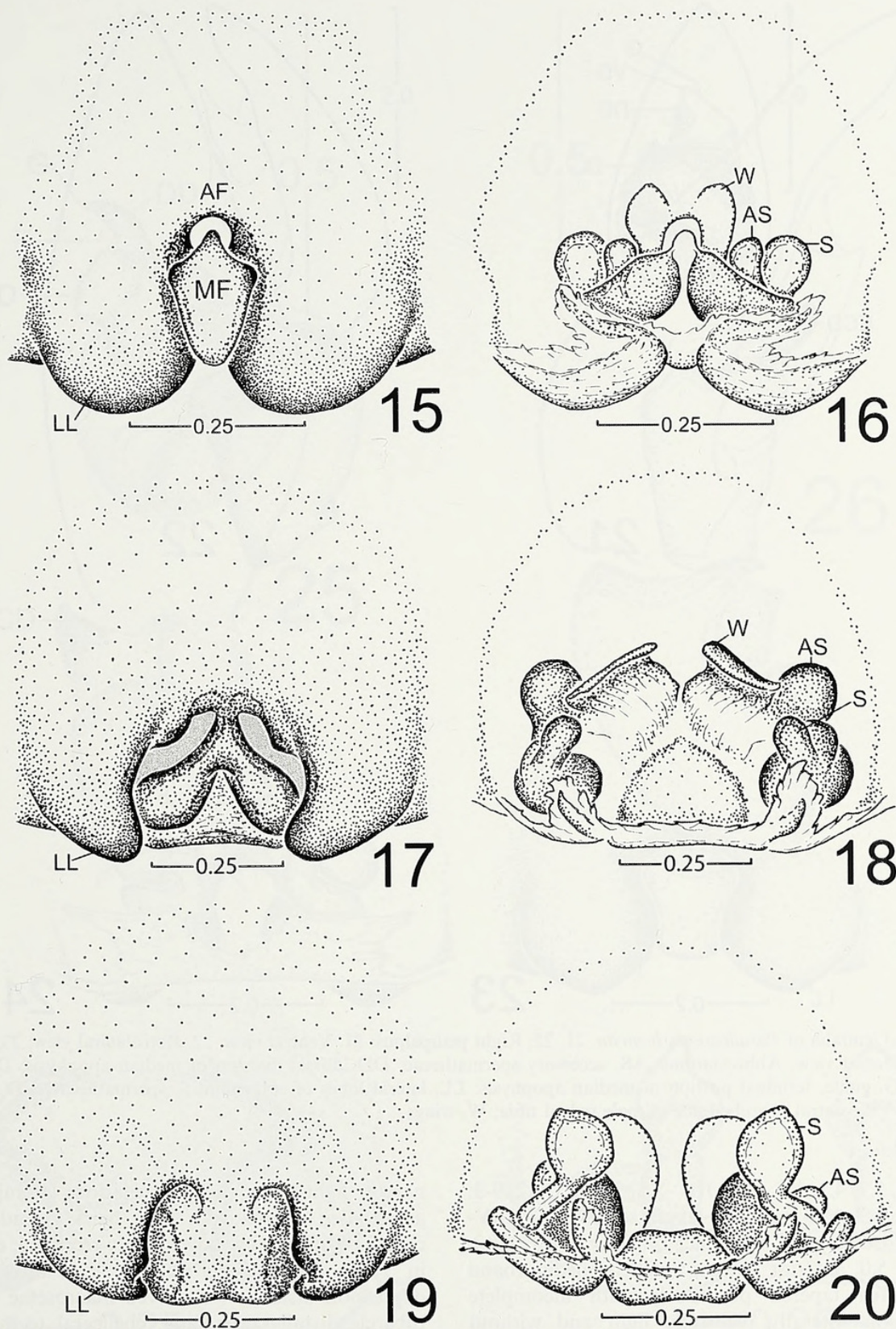


Figures 11-14.—*Paradossenus isthmus*. 11, 12. Right pedipalpus; 11. Ventral view; 12. Retrolateral view; 13, 14. Epigynum; 13. Ventral view; 14. Dorsal view. Abbreviations: AF, anterior field of epigynum; AS, accessory spermathecae; DD, dorsal division of median apophysis; D, duct; ECD, ectal division of RTA; G, guide, terminal portion of median apophysis; LL, lateral lobes of epigynum; MF, middle field of epigynum; S, spermathecae; ST, subtegulum; T, tegulum; VD, ventral division of median apophysis; VP, ventral protuberance of male palpal tibia; W, wings.

Ross (CAS); 1 male, 1 female, 26 October 1954, E.I. Schlinger & E.S. Ross (CAS); *Ucayali*, La Frontera, Upper Utoquinia, 8°13'S, 74°31'W, 1 male, 1928, H. Bassler (AMNH). URUGUAY: *Salto*, Rio Arape (Tangarupa), 31°01'S, 57°30'W, 1 male, 1 female, 20 December 1954, collector unknown (MACN). VENEZUELA: *Territorio Federal*, Delta Amacuro, Rio Orinoco Delta, 8°30'N, 60°50'W, 1 female, January-February, 1935, N. Weber (MCZ); *Amazonas*, Rio Yaciba, 0°50'N, 66°10'W, 1 male, 3 December 1953, unknown collector (AMNH).

Diagnosis.—The females of *P. longipes* resemble those of *P. amazonensis* (Fig. 36) by the general shape of their epigynum, but can be distinguished by the wider middle field (MF), straight-edged laterally, whitish and with shallow grooves (Figs. 2, 7). The males are similar to those of *P. isthmus* (Fig. 11) by the general shape of the median apophysis, but can be distinguished by the more developed dorsal division (DD) of median apophysis (MA) that presents a "hook-like" shape (Figs. 1, 5).

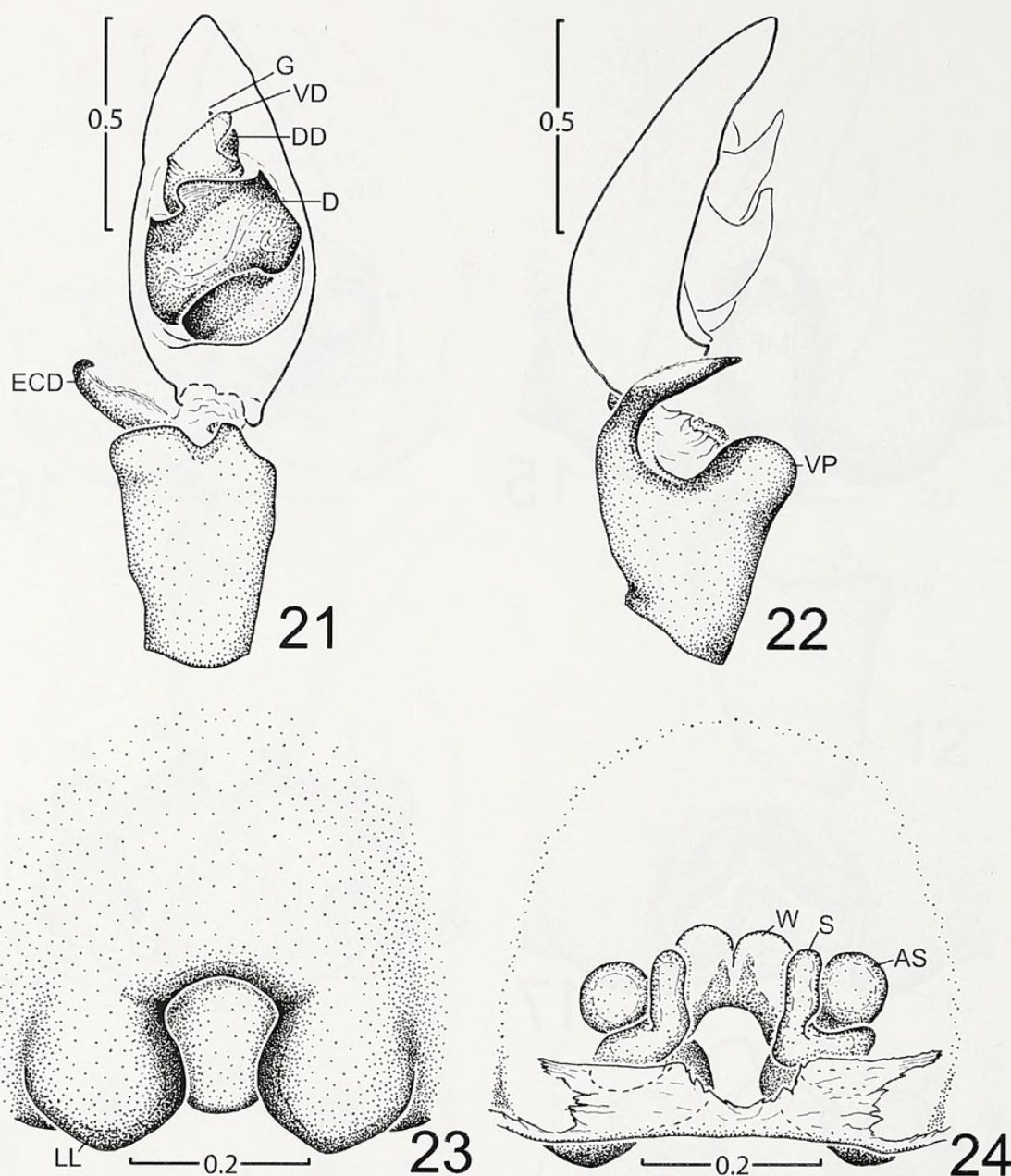
Description.—*Female (lectotype)*: Carapace length 3.5, width 3.1. Sternum length 1.72, width 1.60, light and



Figures 15–20.—Epigyna of *Paradosenus* species. 15, 16. *P. caricoi*; 15. Ventral view; 16. Dorsal view; 17, 18. *P. pulcher*; 17. Ventral view; 18. Dorsal view; 19, 20. *P. junin*; 19. Ventral view; 20. Dorsal view. Abbreviations: AF, anterior field of epigynum; AS, accessory spermathecae; LL, lateral lobes of epigynum; MF, middle field of epigynum; S, spermathecae; W, wings.

unmarked; labium length 0.68, width 0.64, dark but lighter anteriorly. Clypeus height 0.22, width 1.50. Carapace with longitudinal wide median dark band divided medially with narrow light band; dark reticulations laterally in lateral light areas. Anterior eye row slightly recurved, eye measurements in

Table 1. Cheliceral teeth: promarginal 3, proximal one shortest, remainder subequal; retromarginal 4, second from proximal shortest, remainder subequal. Color of legs light with small maculae around base of setae. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 5.8, 7.4, 5.6,

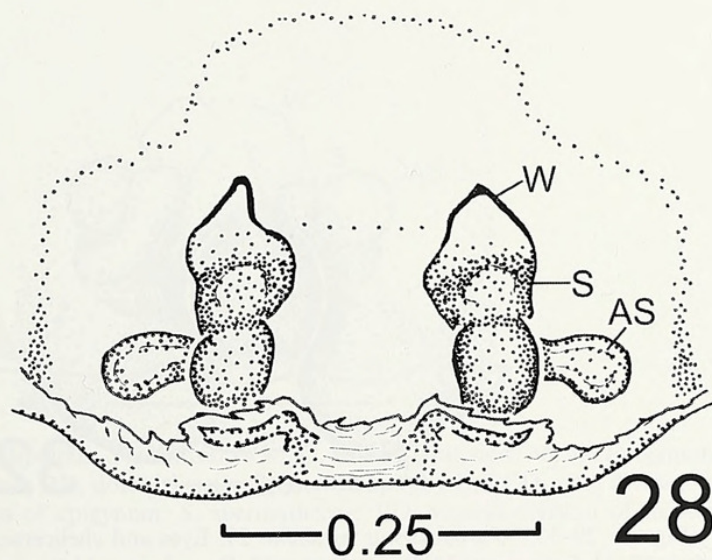
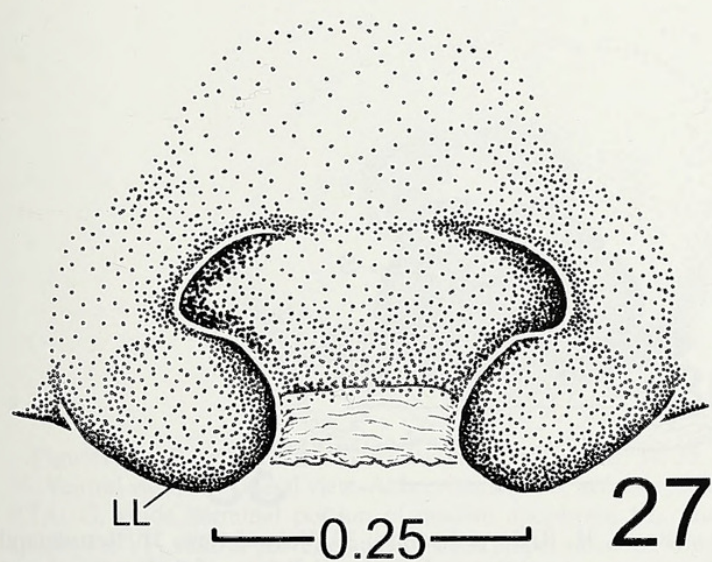
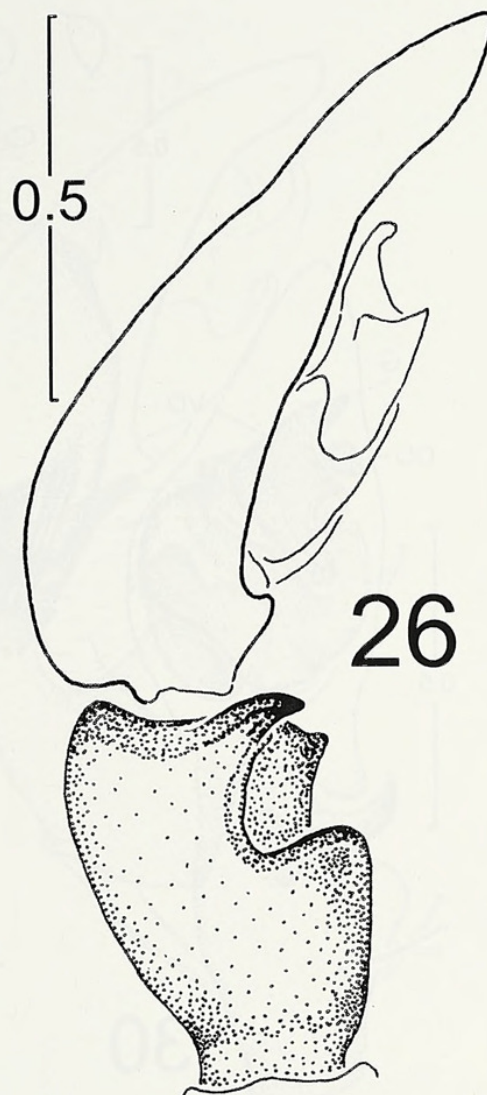
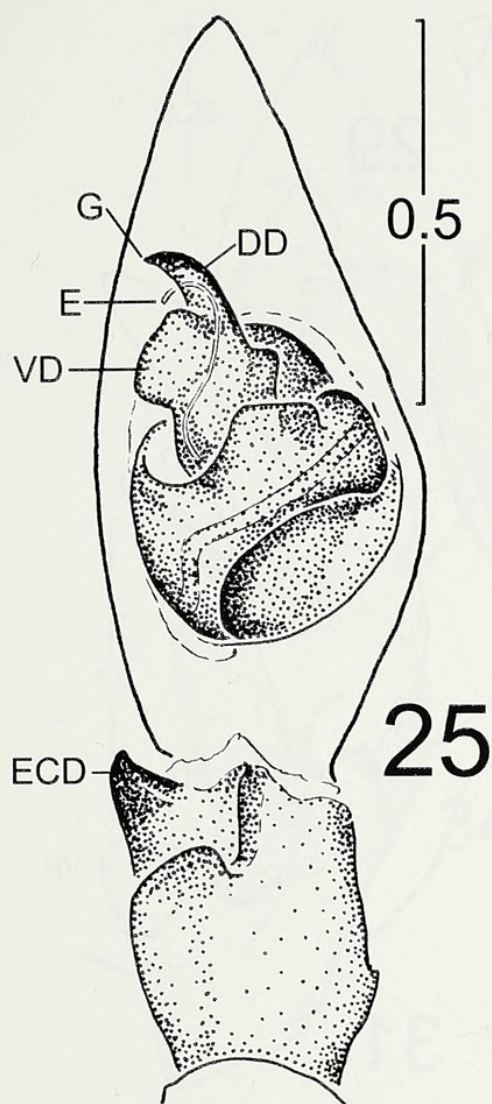


Figures 21–24.—Genitalia of *Paradosenus benicito*. 21, 22. Right pedipalpus; 21. Ventral view; 22. Retrolateral view; 23, 24. Epigynum; 23. Ventral view; 24. Dorsal view. Abbreviations: AS, accessory spermathecae; DD, dorsal division of median apophysis; D, duct; ECD, ectal division of RTA; G, guide, terminal portion of median apophysis; LL, lateral lobes of epigynum; S, spermathecae; VD, ventral division of median apophysis; VP, ventral protuberance of male palpal tibia; W, wings.

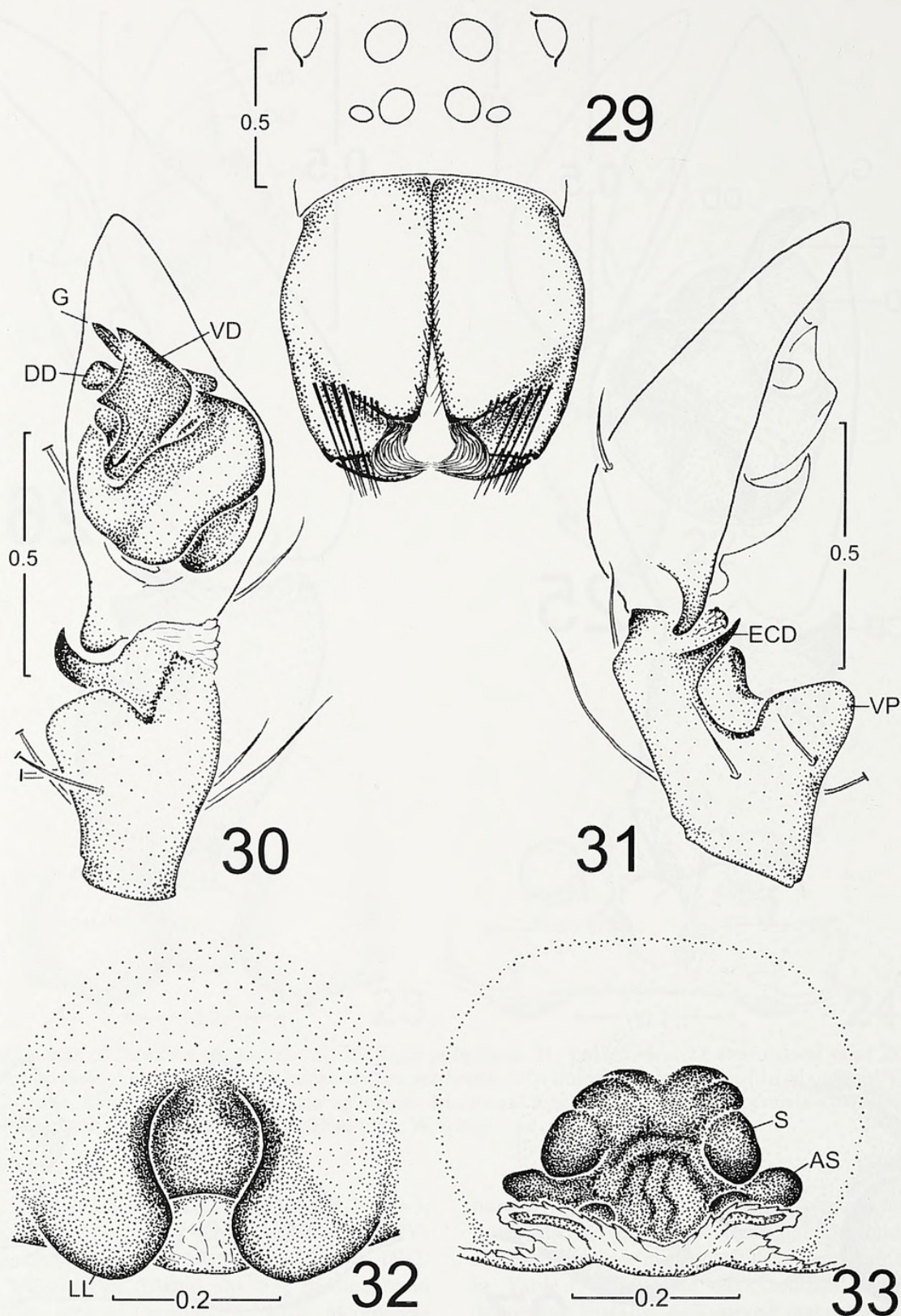
2.4, 21.2; II – 4.8, 5.7, 4.1, 1.8, 16.4; III – 2.8, 3.0, 2.3, 1.2, 9.3; IV – 4.7, 5.0, 4.5, 1.7, 15.9; total leg length sequence: I-II-IV-III; ventral macrosetae pairs on tibiae: I-4, II-4, III-3, IV-3. Abdomen length 5.0; anterior margin notched, median band above cardiac area tapered posteriorly with incomplete narrow light bands laterally; ventrally light and without distinct pattern. Middle field (MF) of female epigynum white, rectangular with longitudinal grooves, deep cavity anteriorly; lateral lobes (LL) triangular at posterior margin (Figs. 2, 7); spermathecae attached to a sclerotized arch, with small, stalked, accessory spermathecae conspicuous dorsally (Fig. 8).

Male (paralectotype): Carapace length 3.9, width 3.2. Sternum length 1.68, width 1.52; labium length 0.68, width 0.60. Clypeus height 0.28, width 1.80. Carapace (Fig. 9) with longitudinal median wide dark band divided medially with

narrow light band; dark reticulations laterally in lateral light areas also covered with light hairs extending to corner of clypeus. Anterior eye row slightly recurved, eye measurements in Table 1. Chelicerae dark reddish brown with diagonal depression distally; 4–5 curved macrosetae emerging from a tubercle distally near fang; cheliceral teeth, promarginal 3, middle largest, remainder subequal; retromarginal 4, second from proximal shortest, remainder subequal. Color of legs light, lacking distinct pattern. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 10.5, 14.2, 10.7, 4.2, 39.6; II – 6.6, 8.5, 6.5, 2.5, 24.1; III – 3.7, 4.0, 3.2, 1.4, 12.3; IV – 6.5, 6.9, 6.8, 2.4, 22.6; total leg length sequence: I-II-IV-III; ventral macrosetae pairs on tibiae: I-4, II-4, III-3, IV-3; each paired tarsal claw with 15 teeth, unpaired claw with two small teeth (Fig. 3). Abdomen length 5.2; anterior margin notched;



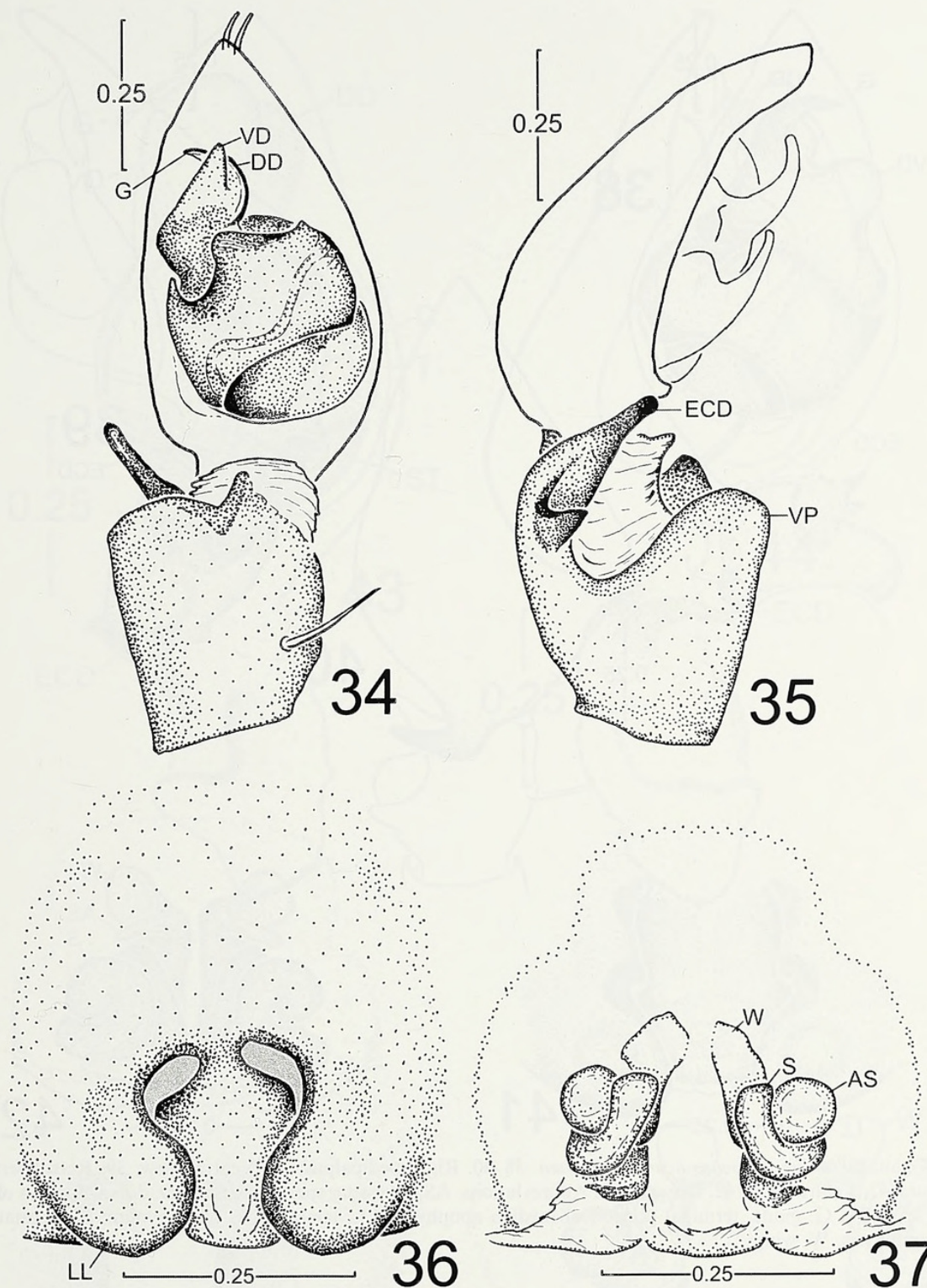
Figures 25–28.—Genitalia of *Paradossenus tocantins*. 25, 26. Right palpus; 25. Ventral view; 26. Dorsal view; 27, 28. Epigynum; 27. Ventral view; 28. Dorsal view. Abbreviations: AS, accessory spermathecae; DD, dorsal division of median apophysis; E, embolus; ECD, ectal division of RTA; G, guide, terminal portion of median apophysis; LL, lateral lobes of epigynum; S, spermathecae; VD, ventral division of median apophysis; W, wings.



Figures 29–33.—*Paradossenus corumba*. 29. Eyes and chelicerae, frontal view; 30, 31. Right pedipalpus; 30. Ventral view; 31. Retrolateral view; 32, 33. Epigynum; 32. Ventral view; 33. Dorsal view. Abbreviations: AS, accessory spermathecae; DD, dorsal division of median apophysis; ECD, ectal division of RTA; G, guide, terminal portion of median apophysis; LL, lateral lobes of epigynum; S, spermathecae; VD, ventral division of median apophysis; VP, ventral protuberance of male palpal tibia.

median dark band above cardiac area tapered posteriorly, surrounded laterally by narrow light bands joining posteriorly which, in turn, are bordered laterally with outer dark bands that join posteriorly (Fig. 9); venter light and unmarked. Dorsal division (DD) of the median apophysis (MA) of male

palpus composed of conspicuous curved, sickle-shaped guide (G) and ventral division (VD) single, flattened, spatula-shaped rounded apically; dorsal division narrow, "hook-like" (Figs. 1, 5). Retrolateral tibial apophysis (RTA) single, tapered, directed ventrally (Fig. 6).



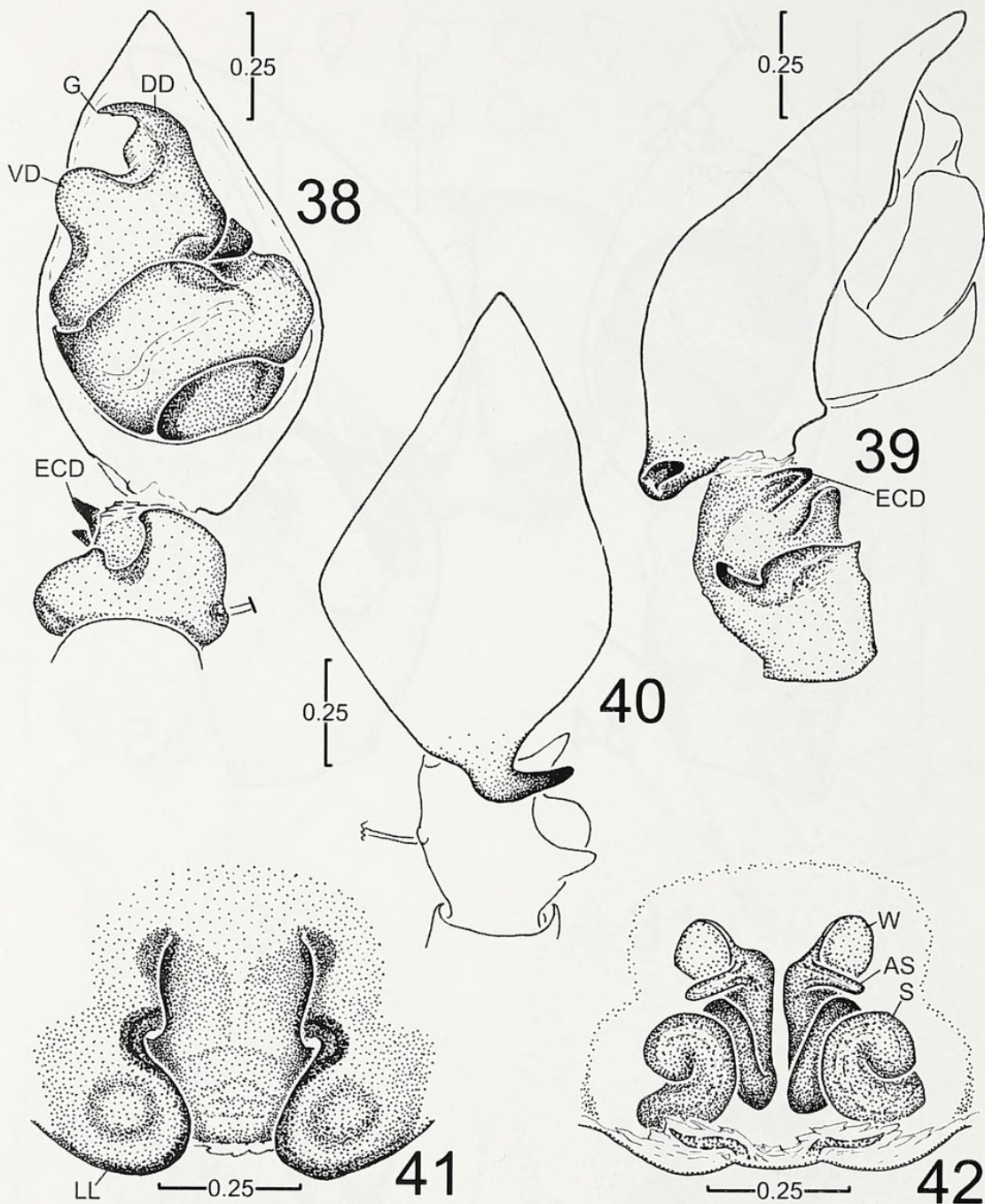
Figures 34–37.—Genitalia of *Paradosenus amazonensis*. 34, 35. Right pedipalpus; 34. Ventral view; 35. Retrolateral view; 36, 37. Epigynum; 36. Ventral view; 37. Dorsal view. Abbreviations: AS, accessory spermathecae; DD, dorsal division of median apophysis; ECD, ectal division of RTA; G, guide, terminal portion of median apophysis; LL, lateral lobes of epigynum; S, spermathecae; VD, ventral division of median apophysis; VP, ventral protuberance of male palpal tibia; W, wings.

Variation.—The average carapace length of eleven males is 3.82 (range 3.4–4.6) and the average carapace length of fifteen females is 3.68 (range 3.2–4.6).

Natural history.—Representatives of this species were found exclusively on the vegetation near rocky streams. Adult males and females are found from December to April (field

observations in Rio Grande do Sul, southern Brazil, made by ELCS).

Distribution.—The range extends from Guyana and coastal Venezuela southward through the Amazon River basin to Uruguay and Argentina (Fig. 4). For additional notes on the distribution of this species, see Sierwald (1993) and Brescovit et al. (2000).



Figures 38–42.—Genitalia of *Paradossenus acanthocymbium*. 38–40. Right pedipalpus; 38. Ventral view; 39. Retrolateral view; 40. Dorsal view; 41, 42. Epigynum; 41. Ventral view; 42. Dorsal view. Abbreviations: AS, accessory spermathecae; DD, dorsal division of median apophysis; ECD, ectal division of RTA; G, guide, terminal portion of median apophysis; LL, lateral lobes of epigynum; S, spermathecae; VD, ventral division of median apophysis; W, wings.

Paradossenus isthmus new species

Figs. 4, 10–14

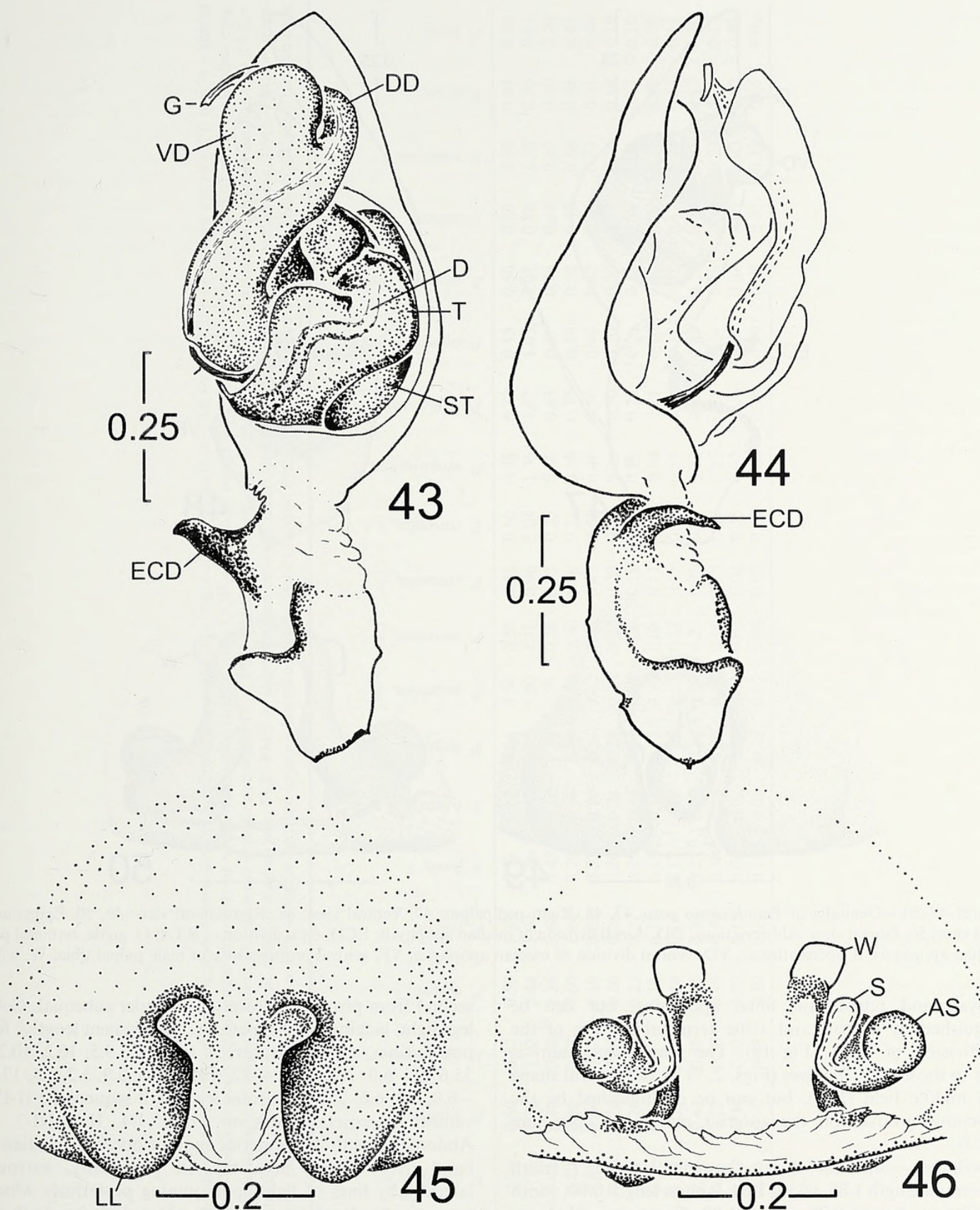
Type material.—Holotype male, 1 paratype male, 5 paratype females: PANAMA: *Canal Zone*: Barro Colorado Island, edge of Lake Gatun, 9°09'N, 79°50'W, 4 August 1983, J.E. Carico (AMNH).

Other material examined:—PANAMA: *Canal Zone*: Barro Colorado Island, 9°09'N, 79°50'W, 57 males, 86 females, 16 June 1934–5 March 1958), A.M. Chickering (MCZ); 1 female, 30 July–1 September 1928, Chamberlin (MCZ); Colón: 2 males, 22 females, Frijoles, 9°10'N, 79°47'W, 25 January 1958, A.M.

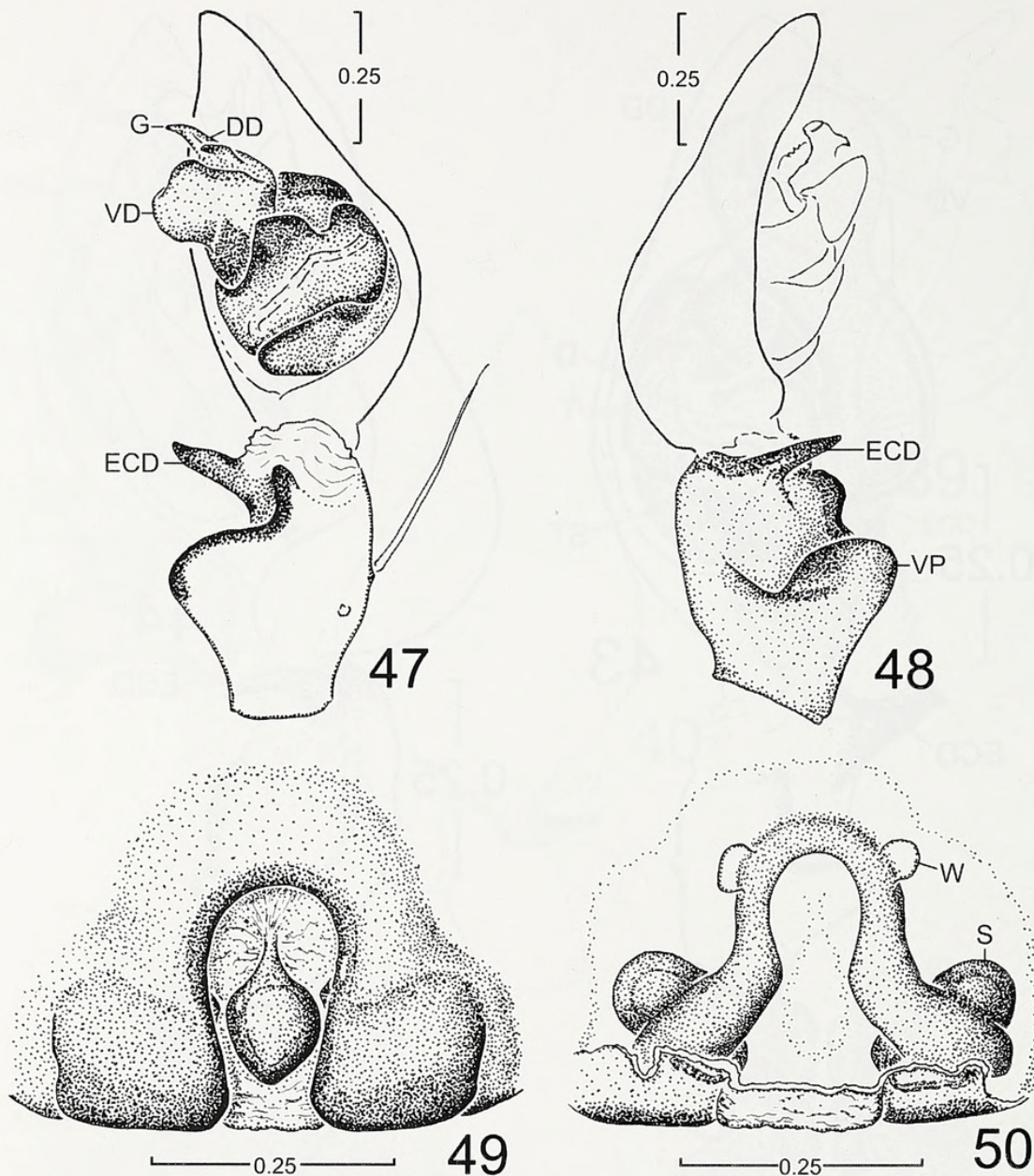
Chickering (MCZ). NICARAGUA: *Atlántico Norte*: Masawas, Rio Waspuk, 14°38'N, 84°26'W, 10–31 October 1955, 1 female, W. B. Malkin (AMNH). COLOMBIA: *Chocó*: Quebrada Taparral, 15 km N of Palestina, Rio San Juan, 4°09'N, 77°04'W, 28–31 May 1969, 2 females, B. Malkin (AMNH).

Etymology.—The name is a noun in apposition suggested by the term describing the physiographical feature of the area of distribution (“*isthmus*” = narrow portion of land that connects two continents).

Diagnosis.—The males of *P. isthmus* resemble those of *P. benicito* (Figs. 21, 22) by the general shape of the median



Figures 43–46.—Epigyna of *Paradossenus* species. 43, 44. *P. sabana*, right palpus; 43. Ventral view; 44. Dorsal view; 45, 46. *P. minimus*, epigynum; 45. Ventral view; 46. Dorsal view. Abbreviations: AS, accessory spermathecae; D, duct; DD, dorsal division of median apophysis; ECD, ectal division of RTA; G, guide, terminal portion of median apophysis; LL, lateral lobes of epigynum; S, spermathecae; ST, subtegulum; T, tegulum; VD, ventral division of median apophysis; W, wings.



Figures 47-50.—Genitalia of *Paradosenus pozo*. 47, 48. Right pedipalpus; 47. Ventral view; 48. Retrolateral view; 49, 50. Epigynum; 49. Ventral view; 50. Dorsal view. Abbreviations: DD, dorsal division of median apophysis; ECD, ectal division of RTA; G, guide, terminal portion of median apophysis; S, spermathecae; VD, ventral division of median apophysis; VP, ventral protuberance of male palpal tibia; W, wings.

apophysis and retrolateral tibial apophysis, but can be distinguished by narrow and acute terminal portion of the ectal division of RTA (Fig. 12). The female epigynum is similar to those of *P. longipes* (Figs. 2, 7) by the general shape of the middle field (MF), but can be distinguished by the conspicuous grooves on the anterior margin of epigynum (Fig. 13).

Description.—*Male (holotype)*: Carapace length 3.7, width 3.1. Sternum length 1.88, width 1.64; labium length 0.80, width 0.68. Clypeus height 0.20, width 1.80. Carapace with longitudinal wide median dark band divided medially with narrow light band; light setae in lateral light areas extending to lateral corners of clypeus. Anterior eye row recurved, eye measurements in Table 1. Chelicerae dark reddish brown with diagonal depression distally; 4-5 curved macrosetae emerging from a tubercle distally near fang; cheliceral teeth, promarginal 3, middle largest, remainder subequal; retromarginal 4,

second from proximal shortest, remainder subequal. Color of legs light, lacking distinct pattern. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 9.5, 12.2, 10.2, 3.7, 35.6; II – 6.0, 7.9, 6.0, 2.4, 22.3; III – 3.5, 3.9, 3.2, 1.4, 12.0; IV – 6.0, 6.4, 6.6, 2.2, 21.2; total leg length sequence: I-II-IV-III; ventral macrosetae pairs on tibiae: I-4, II-4, III-3, IV-3. Abdomen length 4.6; anterior margin notched; median dark band over cardiac area tapered posteriorly, surrounded laterally by lines of light spots joining posteriorly which, in turn, are bordered laterally with outer dark bands that join posteriorly and extend to anal tubercle; venter light and unmarked. Male palpus with dorsal division (DD) of median apophysis (MA) composed of conspicuous curved, sickle-shaped guide (G) and ventral division (VD) single, flattened, tapered distally, curved and rounded apically (Fig. 11). Retrolateral tibial apophysis (RTA) single, acute and curved ventrally (Fig. 12).

Table 1.—Eye measurements for species of *Paradosenus*. Measurements are dimensions with outer limits of entities included. AE row = width of anterior eye row, PE row = width of posterior eye row, OQA = width of ocular quadrangle anteriorly or width of anterior median eyes, OQP = width of ocular quadrangle posteriorly or width of posterior median eyes, OQH = height of ocular quadrangle or height of anterior median eye at posterior median eye, PLE = diameter of posterior lateral eye, PME = diameter of posterior median eye, ALE = diameter of anterior lateral eye, AME = diameter of anterior median eye, PLE-PME = inter-distance between posterior lateral eye and posterior median eye, PME-PME = inter-distance between posterior median eyes, ALE-AME = inter-distance between anterior lateral eye and anterior median eye, AME-AME = inter-distance between anterior median eyes.

| | <i>P. longipes</i> , ♂ | <i>P. longipes</i> , ♀ | <i>P. isthmus</i> , ♂ | <i>P. isthmus</i> , ♀ | <i>P. caricol</i> , ♀ | <i>P. pulcher</i> , ♀ | <i>P. junin</i> , ♀ | <i>P. benicto</i> , ♂ | <i>P. benicto</i> , ♀ | <i>P. locantius</i> , ♂ | <i>P. locantius</i> , ♀ | <i>P. cornuba</i> , ♂ | <i>P. cornuba</i> , ♀ | <i>P. amazonensis</i> , ♂ | <i>P. amazonensis</i> , ♀ | <i>P. acanthhocymbium</i> , ♂ | <i>P. acanthhocymbium</i> , ♀ | <i>P. sabana</i> , ♂ | <i>P. minutus</i> , ♀ | <i>P. pozo</i> , ♂ | <i>P. pozo</i> , ♀ |
|---------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|-------------------------|-------------------------|-----------------------|-----------------------|---------------------------|---------------------------|-------------------------------|-------------------------------|----------------------|-----------------------|--------------------|--------------------|
| AE row | 0.86 | 0.76 | 0.80 | 0.87 | 0.59 | 1.19 | 0.78 | 0.62 | 0.64 | 0.50 | 0.50 | 0.55 | 0.60 | 0.58 | 0.73 | 0.55 | 0.50 | 0.50 | 0.66 | 0.48 | 0.50 |
| PE row | 1.88 | 1.76 | 1.78 | 1.92 | 1.44 | 1.94 | 1.46 | 1.50 | 1.56 | 1.10 | 1.10 | 0.96 | 1.09 | 1.35 | 1.62 | 1.05 | 1.01 | 0.86 | 1.58 | 0.90 | 0.93 |
| OQA | 0.52 | 0.44 | 0.48 | 0.50 | 0.36 | 0.62 | 0.43 | 0.40 | 0.40 | 0.28 | 0.28 | 0.33 | 0.35 | 0.36 | 0.45 | 0.31 | 0.30 | 0.25 | 0.40 | 0.30 | 0.30 |
| OQP | 0.74 | 0.70 | 0.70 | 0.77 | 0.60 | 1.04 | 0.79 | 0.66 | 0.66 | 0.50 | 0.50 | 0.48 | 0.51 | 0.60 | 0.75 | 0.50 | 0.50 | 0.43 | 0.68 | 0.45 | 0.43 |
| OQH | 0.69 | 0.62 | 0.64 | 0.67 | 0.48 | 0.63 | 0.53 | 0.56 | 0.54 | 0.45 | 0.45 | 0.45 | 0.45 | 0.48 | 0.56 | 0.46 | 0.42 | 0.36 | 0.53 | 0.41 | 0.40 |
| PLE | 0.32 | 0.28 | 0.26 | 0.28 | 0.26 | 0.28 | 0.26 | 0.24 | 0.24 | 0.20 | 0.22 | 0.20 | 0.18 | 0.25 | 0.30 | 0.20 | 0.20 | 0.14 | 0.25 | 0.18 | 0.19 |
| PME | 0.32 | 0.24 | 0.26 | 0.25 | 0.23 | 0.27 | 0.25 | 0.24 | 0.24 | 0.19 | 0.20 | 0.18 | 0.18 | 0.24 | 0.28 | 0.20 | 0.18 | 0.14 | 0.25 | 0.17 | 0.19 |
| ALE | 0.16 | 0.12 | 0.13 | 0.15 | 0.10 | 0.18 | 0.13 | 0.10 | 0.12 | 0.10 | 0.08 | 0.11 | 0.10 | 0.10 | 0.11 | 0.10 | 0.10 | 0.07 | 0.12 | 0.08 | 0.09 |
| AME | 0.22 | 0.20 | 0.20 | 0.20 | 0.14 | 0.26 | 0.17 | 0.18 | 0.16 | 0.13 | 0.12 | 0.15 | 0.15 | 0.15 | 0.18 | 0.12 | 0.12 | 0.11 | 0.18 | 0.14 | 0.13 |
| PLE-PME | 0.40 | 0.41 | 0.41 | 0.48 | 0.35 | 0.39 | 0.27 | 0.32 | 0.38 | 0.20 | 0.22 | 0.20 | 0.27 | 0.32 | 0.40 | 0.19 | 0.20 | 0.23 | 0.35 | 0.17 | 0.20 |
| PME-PME | 0.22 | 0.18 | 0.23 | 0.25 | 0.19 | 0.59 | 0.38 | 0.25 | 0.26 | 0.15 | 0.16 | 0.15 | 0.17 | 0.15 | 0.28 | 0.14 | 0.16 | 0.14 | 0.23 | 0.16 | 0.14 |
| ALE-AME | 0.04 | 0.06 | 0.04 | 0.03 | 0.02 | 0.15 | 0.06 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 | 0.05 | 0.02 | 0.06 | 0.03 | 0.02 | 0.09 | 0.03 | 0.02 | 0.03 |
| AME-AME | 0.08 | 0.10 | 0.10 | 0.13 | 0.10 | 0.11 | 0.10 | 0.06 | 0.08 | 0.05 | 0.06 | 0.05 | 0.07 | 0.08 | 0.10 | 0.09 | 0.08 | 0.07 | 0.10 | 0.05 | 0.05 |

Female (paratype): Carapace length 4.1, width 3.6. Sternum length 2.00, width 1.88, light and unmarked; labium length 0.84, width 0.72, dark but lighter anteriorly. Clypeus height 0.65, width 1.80. Carapace with longitudinal wide median dark band divided medially with narrow light band; light setae in lateral light areas extending to lateral corners of clypeus. Anterior eye row recurved, eye measurements in Table 1. Cheliceral teeth, promarginal 3, proximal one shortest, remainder subequal; retromarginal 5, varying sizes, plus an additional one in the right fang groove. Color of legs light with small maculae around base of some setae. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 7.8, 10.3, 7.7, 3.4, 29.2; II – 5.8, 7.4, 5.3, 2.5, 21.0; III – 3.5, 3.9, 3.0, 1.4, 13.2; IV – 5.9, 6.3, 6.0, 2.8, 21.0; total leg length sequence: I-II-IV-III; ventral macrosetae pairs on tibiae: I-4, II-4, III-3, IV-3. Abdomen length 4.9; anterior margin notched, median dark band over cardiac area tapered posteriorly, surrounded laterally by lines of light spots joining posteriorly which, in turn, are bordered laterally with outer dark bands that join posteriorly and extend to anal tubercle; venter light and unmarked. Middle field (MF) of female epigynum broad at distal portion, with longitudinal grooves, no cavity at anterior margin; lateral lobes (LL) rounded at posterior margin (Fig. 13); spermathecae small, stalked, attached to a sclerotized arch with two conspicuous wings and accessory spermathecae (Fig. 14).

Variation.—The average carapace length of sixteen males is 4.07 (range 3.7–4.6) and the average carapace length of thirteen females is 3.97 (range 3.3–4.3). The average diameter of nine egg sacs is 6.91 (range 6.3–7.8).

Natural history.—In Barro Colorado Island, Canal Zone, Panama, this species is found on vegetation at the margins of streams.

Distribution.—Range of distribution extends from southeastern Nicaragua to the northern Pacific coast of Colombia (Fig. 4).

Paradosenus caricoi Sierwald

Figs. 4, 15, 16

Paradosenus caricoi, Sierwald 1993; Platnick 2009.

Type material.—Female holotype: GUYANA: *Demerara*: Tibicuri-CuyahB [Tibikuri?], 6°07'W, 58°21'N, October 1931, Beccari & Romiti, (MZUF #537), examined.

Other material examined:—COLOMBIA: *Meta*: Pto. Lleras, Lomalinda, 3°18'N, 73°22'W, 1 female, March 1988, B.T. Carroll, V.D. Roth (CAS). GUYANA: *Essequibo*: Kuyuwini River, from K. Landing to Essequibo River, 2°16'N, 58°16'W, 1 female, 1–8 December 1937, W.G. Hassler (AMNH). VENEZUELA: *Bolivar*: Cono Corozo, 7°19'N, 61°31'W, 1 female, 11 January 1956, Wurdack & Monachino (AMNH).

Diagnosis.—The females of *P. caricoi* are similar to those of *P. benicito* (Fig. 23) by the general shape of the middle field of the epigynum, but can be distinguished by being narrowed posteriorly and have the uniquely anterior end constricted and imbedded in a circular concavity, while the lateral elevations are large and prominent (Fig. 15).

Description.—*Female (holotype)*: Carapace length 2.4, width 2.1. Sternum length 1.28, width 1.16, medium grey, lighter in anterior one-third, covered with fine, light, prostrate setae; labium length 0.48, width 0.48, medium brown, lighter

distally. Clypeus height 0.14, width 1.12. Carapace medium height, medium brown, becoming darker laterally and in eye region; narrow median lighter band in posterior one-half. Anterior eye row slightly procurved, eye measurements in Table 1. Cheliceral teeth, promarginal 3, proximal one shortest, equidistant; retromarginal 4, second to proximal one largest, remaining three equal in size, all equidistant. Color of legs light, with scattered dark maculae above. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 3.9, 5.1, 3–7, 1.8, 14.5; II – 3.4, 4.2, 3.0, 1.5, 12.1; III – 2.0, 2.2, 1.6, 0.9, 6.7; IV – 3.2, 3.3, 3.1, 1.3, 10.9; total leg length sequence: I-II-IV-III; ventral macrosetae pairs on tibiae: I-5, II-5, III-3, IV-3. Abdomen length 2.9; anterior margin notched, medium band composed of several, narrow, transverse dark lines; pair of small light spots one-third from anterior margin; larger light spots laterally in posterior half; sides covered by alternating light and dark lines; venter light and unmarked. Middle field (MF) of female epigynum wider anteriorly and narrowing posteriorly; lateral lobes (LL) rounded in posterior margin (Fig. 15); spermathecae attached to a sclerotized arch, with a dorsally conspicuous spermathecae; wings located anteriorly (Fig. 16).

Natural history.—The label in the collection from Colombia states: “grasslands; patches of jungle, woods, marsh”.

Distribution.—Based on the three known collection localities, this species is distributed in northern South American from Colombia to Guyana (Fig. 4).

Paradosenus pulcher Sierwald 1993

Figs. 4, 17, 18

Paradosenus pulcher Sierwald 1993:58; Platnick 2009.

Type material.—Female holotype: VENEZUELA: *Amazonas*: Upper RPo BarPa, ca. 100 m elevation, 1°28'N, 66°31'W, 20 July 1984, Linda S. Ford & Charles W. Myers (AMNH), examined.

Other material examined:—ECUADOR: *Sucumbios*: 1 female, Cabanas Cuybeno, 0°16'S, 75°53'W, 24–29 September 1994, V. Roth (CAS). BRAZIL: *Mato Grosso*: Usina Hidrelétrica de Guaporé, 13°59'S, 60°33'W, 1 female, 4–14 October 2002, Operação Coatá (MCTP 13572).

Diagnosis.—The females of *P. pulcher* can be distinguished from other females of *Paradosenus* by the unique shape of the middle field, which is connected anteriorly to the anterior field of the epigynum by a narrow bridge, and by a deep cleft posteriorly at the midline forming a pair of lobes (Fig. 17).

Description.—*Female (holotype)*: Carapace length 4.4, width 3.6. Sternum length 2.05, width 1.95; labium length 0.90, width 0.80, light brown, lighter distally. Clypeus height 0.30, width 1.85. Carapace light brown without distinct pattern. Anterior eye row recurved, eye measurements in Table 1. Chelicerae medium brown becoming gradually darker distally; cheliceral teeth, promarginal 3, middle largest, remainder subequal; retromarginal 5, irregular sizes both left and right. Color of legs light, lacking distinct pattern. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 7.9, 10.4, 6.6, 2.9, 27.8; II – 5.7, 6.8, 4.5, 2.0, 19.0; III – 3.5, 4.5, 4.2, 1.3, 13.5; IV – 6.3, 7.4, 5.7, 1.9, 21.3; total leg length sequence: I-IV-II-III; ventral macrosetae pairs on tibiae: I-4, II-4, III-3, IV-3. Abdomen length 5.2; anterior margin slightly notched; median dark band over cardiac area tapered posteriorly, surrounded

laterally by short, narrow, light bands anteriorly; pair of undulating, narrow, light lines laterally on dorsum; sides light with indistinct, scattered darker spots, venter light and unmarked. Middle field of epigynum (MF) shaped as an inverted "V" with the apex anteriorly attached to anterior field, thus without a cavity at anterior margin, separated from lateral lobes by deep grooves; lateral lobes (LL) rounded in posterior margin (Fig. 17); spermathecae heavily sclerotized, attached to a bulbous elevation, with a small conspicuous accessory spermathecae, unstalked, heavily sclerotized (Fig. 18).

Natural history.—A note with the type collection states: "fallen into dugout canoe from overhanging vegetation".

Distribution.—Ecuador, Venezuela and Brazil (Fig. 4).

Paradosseus junin new species

Figs. 4, 19, 20

Type material.—Female holotype: PERU: *Junin*: Huacapistana, 11°14'S, 75°29'W, 27–30 July 1965, P. & B. Wygodzinsky (AMNH).

Etymology.—The name is a noun in apposition suggested by the name of the province of the type locality.

Diagnosis.—The females of *P. junin* are similar to those of *P. amazonensis* (Fig. 36) by the general shape of the middle field of the epigynum, but can be distinguished by the anterior field that presents a wide bridge and bears a pair of longitudinal creases (Fig. 19).

Description.—*Female (holotype)*: Carapace length 3.1, width 2.7. Sternum length 1.48, width 1.56, light with indistinct dark areas laterally; labium length 0.55, width 0.55, light brown, lighter distally. Clypeus height 0.27, width 1.43. Carapace light brown with irregular and interrupted lateral light bands. Anterior eye row recurved, eye measurements in Table 1. Chelicerae medium brown, becoming gradually lighter distally; cheliceral teeth, promarginal 3, middle largest, remainder subequal; retromarginal 3, subequal, equidistant. Color of legs light with indistinct, faint pattern on dorsal side of femora and tibiae. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 3.9, 4.6, 3.1, 1.4, 13.0; II – 3.5, 4.4, 3.0, 1.3, 12.2; III – 3.1, 3.4, 2.6, 1.1, 10.2; IV – 3.1, 3.6, 2.7, 1.2, 10.6; total leg length sequence: I-II-IV-III; ventral macrosetae pairs on tibiae: I-4, II-4, III-3, IV-3. Abdomen length 5.5; cuticle separated from body with possible distortion of shape and size, no apparent distinct pattern. Middle field (MF) of epigynum broad, covered antero-laterally by lateral lobes (Fig. 19); spermathecae large, stalked, dorsal, conspicuous, and obscuring the accessory spermathecae from dorsal view (Fig. 20).

Natural history.—Nothing is known.

Distribution.—Known only from the type locality (Fig. 4).

Paradosseus benicito new species

Figs. 4, 21–24

Type material.—Male holotype and female paratype: BOLIVIA: *Beni*: Rio Benicito, Chacobo Indian Village, open river, swept from river vegetation, 11°23'S, 65°47'W, 13–26 July 1960, B. Malkin (AMNH).

Other material examined.—BRAZIL: *Rondônia*: Porto Velho, 9°12'S, 64°18'W, 1 male, 25–29 January 1922, J.H. Williamson (MCZ).

Etymology.—The name is a noun in apposition suggested by the name of the river of the type locality.

Diagnosis.—The male of *P. benicito* resembles those of *P. amazonensis* (Fig. 34) by the general shape of the mediana apophysis, but can be distinguished by the narrowed and curved tip of the ectal division of RTA and the absence of a lateral projection (Figs. 21, 22). The middle field of the female epigynum is wider anteriorly and concave in outline; the spermathecae are not stalked, but parallel in their orientation to each other (Figs. 23, 24).

Description.—*Male (holotype)*: Carapace length 2.9, width 2.3. Sternum length 1.10, width 1.12; labium length 0.58, width 0.48, darker posteriorly. Clypeus height 0.14, width 1.06. Carapace low, rubbed, dark brown, graduating to lighter medially and with triangular light area posteriorly; scattered light setae in eye region. Anterior eye row slightly recurved, eye measurements in Table 1. Chelicerae dark reddish brown with diagonal depression distally and lateral carinae; 4–5 curved macrosetae emerging from the medial and distal margin of paturon near fang; cheliceral teeth, promarginal 2, subequal; retromarginal 4, second from proximal shortest, remainder subequal. Color of legs light, lacking distinct pattern. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I & II missing; III – 2.4, 2.6, 2.2, 0.9, 8.1; IV – 4.5, 4.7, 4.2, 1.4, 14.8; ventral macrosetae pairs on tibiae: III-3, IV-3. Abdomen length 3.1; anterior margin damaged; narrow median dark band over cardiac area tapered posteriorly, laterally with reticulating dark color; venter light and unmarked. Dorsal division (DD) of median apophysis (MA) composed of inconspicuous triangular-shaped guide (G) and ventral division (VD) single, flattened, narrowed distally, directed medially and rounded apically (Fig. 21). Retrolateral tibial apophysis (RTA) single, tapered, hooked ventrally (Fig. 22).

Female (paratype): Carapace length 2.6, width 2.3. Sternum length 2.80, width 2.40, light and unmarked, dense hair at outer edge; labium length 0.54, width 0.46, medium brown but lighter anteriorly. Clypeus height 0.16, width 1.10. Carapace low, medium brown; scattered light setae in eye region. Anterior eye row slightly recurved, eye measurements in Table 1. Cheliceral teeth, promarginal 3, middle one shortest, remainder subequal; retromarginal 4, second from proximal smallest, remainder subequal. Color of legs light, unmarked. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 4.5, 5.3, 3.8, 1.7, 15.3; II – 3.7, 3.5, 3.0, 1.4, 11.6; III – 2.0, 2.3, 1.6, 0.8, 6.7; IV – 3.7, 3.7, 3.5, 1.3, 12.2; total leg length sequence: I-IV-II-III; ventral macrosetae pairs on tibiae: I-4, II-4, III-3, IV-3. Abdomen length 4.0; anterior margin notched, narrow median dark band over cardiac area tapered posteriorly, surrounded laterally by series of indistinct light spots; venter light and unmarked. Middle field (MF) of epigynum without longitudinal grooves, no cavity at anterior margin; lateral lobes (LL) rounded in posterior margin (Fig. 23); spermathecae attached to a sclerotized arch, with small, un-stalked, accessory spermathecae conspicuous dorsally (Fig. 24).

Natural history.—Nothing is known.

Distribution.—Northern Bolivia and Brazil (state of Rondônia) (Fig. 4).

Paradosseus tocantins new species

Figs. 4, 25–28

Type material.—Male holotype: BRAZIL: *Tocantins*: Miracema, Usina Hidrelétrica Luís Eduardo Magalhães, 9°34'S,

48°23'W, 11–21 October 2001, R. Bertani & I. Toledo (IBSP 31553). Male and female paratypes, same location, date and collectors as in holotype (MCTP 22512).

Other material examined:—BRAZIL: *Tocantins*: Miracema, Usina Hidrelétrica Eduardo Magalhães, 9°34'S, 48°23'W, 1 male, 11–21 October 2001, R. Bertani & I. Toledo (IBSP 31542); 1 male, 3 females (IBSP 126736); 1 female, 1–11 October 2001, E.K. Kashimata & C.K. Fukami (IBSP 31591); 3 males, 4 females (IBSP 31523); 2 males, 6 females (IBSP 31554); *Mato Grosso do Sul*: Corumbá, Passo do Lontra, Miranda e Abobral, 19°00'S, 57°39'W, 1 female, July 1998–November 1999, J. Raizer (MCTP).

Etymology.—The specific name is a noun in apposition taken from the name of the province of the type locality.

Diagnosis.—The males of *P. tocantins* are similar to those of *P. pozo* (Fig. 47) by the general shape of the median apophysis, but can be distinguished by the thickened and slightly curved dorsal division of the median apophysis, and the ventral division is small and straight on the retrolateral margin (Fig. 25). The middle field of the female epigynum, as in *P. corumba* (Fig. 32), is divided into an anterior heavily sclerotized part and a white, membranous posterior part, but differs from the latter by having the whole middle field distinctly wider than long (Fig. 27).

Description.—*Male (holotype)*: Carapace length 2.1, width 1.7. Sternum length 1.10, width 0.95, unmarked; labium length 0.33, width 0.36, darker posteriorly. Clypeus height 0.12, width 0.92. Carapace low, medium brown reticulations except with light submarginal and median bands. Anterior eye row straight, eye measurements in Table 1. Chelicerae light brown, with diagonal depression distally, no lateral carinae; 4–5 curved macrosetae emerging from the medial and distal protuberance of paturon near fang; cheliceral teeth, promarginal 4, equidistant, second to proximal largest; retromarginal 4, equidistant, subequal. Color of leg IV light, bearing scattered small maculae except black on retrolateral sides of femur, patella-tibia. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I, II, III missing; IV – 2.8, 2.9, 2.9, 1.0, 9.6; ventral macrosetae pairs on tibiae: IV-3. Abdomen length 2.5; anterior margin indented; dorsally light brown with lighter chevrons in posterior half, laterally with dark lines, venter light and unmarked.

Palpus with dorsal division (DD) of median apophysis is composed of curved, triangular guide (G) and ventral division (VD) flattened, rounded (Fig. 25). Retrolateral tibial apophysis (RTA) single, triangular (Fig. 26).

Female (paratype): Carapace length 2.0, width 1.8. Sternum length 1.12, width 1.00, light and unmarked; labium length 0.30, width 0.34, light. Clypeus height 0.12, width 0.81. Carapace medium height, color light marked by light brown medially lighter submarginal bands, black marginal bands posteriorly. Anterior eye row slightly procurved, eye measurements in Table 1. Cheliceral teeth, promarginal 3, equal distance, middle largest; retromarginal 3, tending larger distally, equidistant. Color of legs light, marked by scattered dark spots concentrating in a narrow band on retrolateral surfaces. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I & II missing; III – 1.8, 1.9, 1.6, 0.7, 6.0; IV – 2.5, 2.5, 2.7, 1.0, 8.7; ventral macrosetae pairs on tibiae: I & II missing, III-3, IV-3. Abdomen rounded and widest posteriorly, color light and

darker posteriorly, light gray area over cardiac area, dark band laterally; light and unmarked ventrally. Epigynum wider than long, middle field (MF) twice as wide as long (Fig. 27); lateral lobes (LL) rounded, very widely separated in posterior margin; spermathecae and accessory spermathecae small; wings pointed anteriorly (Fig. 28).

Natural history.—Nothing is known.

Distribution.—Brazil (states of Tocantins and Mato Grosso do Sul) (Fig. 4).

Paradosenus corumba Brescovit & Raizer 2000
Figs. 4, 29–33

Paradosenus corumba Brescovit et al. 2000:8–12, figs. 1–5, 11–17, 23; Platnick 2009.

Type material.—Male holotype (IBSP #6901) and paratype female (IBSP #6903), BRAZIL: *Mato Grosso do Sul*: Corumbá, 19°00'S, 57°39'W, 1994, R. Raizer, examined.

Other material examined:—PARAGUAY: *Concepcion*: Puerto Vallemi, confluence of R. Apa & R. Paraguay, 22°08'S, 57°58'W, 1 male, 8–21 May 1952, A. Bachman. See Brescovit et al. (2000) for additional distributional notes.

Diagnosis.—The male cymbium bears a unique apophysis retrolaterally at the base; the median apophysis differs from all other species by the angular outline of the ventral division and the additional projections from the dorsal division (Figs. 30, 31). The epigynum is similar to *P. tocantins* (Fig. 27) in having the middle field continuous with the anterior field, and being composed of a dark, heavily sclerotized anterior portion and a posterior clear, membranous portion but differs from the latter by the middle field being longer than wide (Fig. 32).

Description.—*Male (holotype)*: Carapace length 2.2, width 1.8. Sternum length 0.60, width 0.55, light and unmarked; labium length 0.37, width 0.45, light. Clypeus height 0.15, width 0.98. Carapace medium height, highest posteriorly, color medium brown marked by distinct light submarginal bands and narrow dark marginal bands; medial, narrow light line extending from fovea to edge of clypeus. Anterior eye row slightly procurved, eye measurements in Table 1. Paturon with antero-proximal knobs bearing series of strong setae clusters of sinuous bristles covering each fang (Fig. 29). Cheliceral teeth, promarginal 3, equal distance, middle largest (all smaller than typical); retromarginal 3, equal size, equidistant. Color of legs light, marked by indistinct light maculae and longitudinal lines on lateral margins of femora and tibiae. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 3.9, 4.9, 3.8, 1.8, 14.4; II – 3.3, 3.9, 3.0, 1.0, 11.6; III – 2.0, 2.2, 1.6, 0.7, 6.5; IV – 3.3, 3.5, 3.3, 1.2, 11.3; ventral macrosetae pairs on tibiae: I-3, II-3, III-3, IV-3 (terminal pair present only on III & IV). Abdomen dorsal color pattern on anterior two-thirds with dark grey folium flanked by 2 pairs of white spots; posterior third with 4 transverse medium grey bands; sides with reticulated dark lines; venter with semi-circular white area anteriorly. Cymbium of male palpus with a flattened projection located proximally and retrolaterally (Figs. 30, 31); dorsal division (DD) of median apophysis (MA) composed by a small spatulate projection and a distal, straight guide (G) (Fig. 30); ventral division (VD) with 2 retrolateral acute projections (Fig. 30). Retrolateral tibial apophysis (RTA) single, tapered, pointed distally (Fig. 31).

Female (paratype): Carapace length 2.3, width 2.1. Sternum length 1.10, width 1.1, light and unmarked; labium length 0.30, width 0.34, light. Clypeus height 0.17, width 0.90. Carapace medium height, highest posteriorly, color medium brown marked by distinct light submarginal bands and narrow dark marginal bands; medial, narrow light line extending from fovea to edge of clypeus. Anterior eye row slightly procurved, eye measurements in Table 1. Cheliceral teeth, promarginal 3, equal distance, middle largest; retromarginal 3, size increases distally, equidistant. Color of legs light, marked by scattered light grey, incomplete bands on femora and tibiae. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 3.1, 3.8, 2.6, 1.2, 10.7; II – 2.8, 3.2, 2.4, 1.1, 9.5; III – 1.8, 2.0, 1.5, 0.8, 6.1; IV – 3.1, 2.9, 2.9, 1.1, 10.0; ventral macrosetae pairs on tibiae: I-3, II-3, III-2, IV-3 (terminal pair present only on IV). Abdomen color pattern obscured because of poor condition. Middle field of female epigynum subdivided with posterior half with irregular grooves (Fig. 32); lateral lobes (LL) rounded, widely separated in posterior margin (Fig. 32); spermathecae dark and heavily sclerotized (Fig. 33).

Natural history.—Brescovit et al. (2000) have described the web-building and prey capture behavior of this species. See this reference also for details of the anatomy.

Distribution.—Found in the Pantanal, states of Mato Grosso do Sul, Brazil and Concepcion, Paraguay (Fig. 4).

Paradossenus amazonensis new species

Figs. 4, 34–37

Type material.—Holotype male, paratype female, juvenile male; BRAZIL: Amazonas: Novo Airão, Arquipálago de Anavilhanas, 2°37'S, 60°56'W, July 2004, S.C. Dias (MCTP #22514).

Other material examined:—BRAZIL: Pará: Oriximiná, Lago Iripixi, 1°46'S, 55°50'W, 17 January 2009, 1 male, 1 female, E.L.C. Silva (MCTP # 8834); Prainha, Curuana, Restinga do Moreru, 2°38'S, 50°32'W, 1 female, 24 Oct. 2003, F. Rego (IBSP 91605). Mato Grosso: Nossa Senhora do Livramento, Pantanal de Poconé, Pirizal, Fazenda Retiro Novo, 16°15'S, 57°56'W, 23 March 2005, L. P. Battistola (IBSP 91481).

Etymology.—The name means “from Amazon” taken from the name of the province of the type locality.

Diagnosis.—The male of *P. amazonensis* is similar to those of *P. corumba* Brescovit & Raizer, 2000 (Figs. 30, 31) by the general shape of the RTA, but can be distinguished by the divided ectal division (ECD) of RTA and the lack of the projection, present only in *P. corumba* and *P. acanthocymbium* (Figs. 31, 39, 40). The middle field of the female epigynum presents some unique characters: it is joined by a narrow bridge to the anterior field and is overlapped significantly by the lateral elevations (Fig. 36).

Description.—**Male (holotype):** Carapace length 2.5, width 2.5. Sternum length 1.20, width 1.08, medium brown, lighter in the center; labium length 0.32, width 0.40, lighter distally. Clypeus height 0.10, width 0.95. Carapace low, medium brown with darker reticulations. Anterior eye row slightly recurved, eye measurements in Table 1. Chelicerae medium brown with small maculae in proximal half, with diagonal depressions distally, lateral carinae on distal third; slight distal protuberance of paturon near fang; cheliceral teeth, promarginal 3,

middle one largest; retromarginal 4, proximal 2 much smaller than other two. Color of legs light, scattered indistinct maculae except darker ones on leg III. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I missing; II – 3.5, 4.4, 3.2, 1.4, 12.5; III – 1.9, 2.1, 1.7, 0.8, 6.5; IV – 3.5, 3.6, 3.4, 1.3, 11.8; ventral macrosetae pairs on tibiae: II-4, III-3, IV-3. Abdomen length 2.6; anterior margin indented; dorsally medium brown with pair of light spots in posterior half, laterally medium brown, venter light and unmarked. Cymbium of male palpus longer than tibia, dorsal division (DD) of median apophysis (ma) composed of curved, subtriangular guide (G) and ventral division (VD) triangular with distal portion light and covering guide (Fig. 34). Retrolateral tibial apophysis composed of two parts, distal division one longer, directed ventrally, narrow and rounded distally, proximal division shorter, triangular and acute (Fig. 34).

Female (paratype): Carapace length 3.0, width 2.8. Sternum length 1.60, width 1.32, light and unmarked; labium length 0.52, width 0.48, light grey. Clypeus height 0.19, width 1.31. Carapace low, medium brown; darker in eye region. Anterior eye row slightly procurved, eye measurements in Table 1. Cheliceral teeth, promarginal 3, proximal one shortest, proximal two closest; retromarginal 4, variable but proximal two largest, equidistant. Color of legs light, with scattered faint markings above, more distinct on leg III. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 4.9, 6.4, 4.4, 2.1, 17.8; II – 4.1, 5.0, 3.5, 2.0, 14.6; III – 2.1, 2.4, 2.0, 1.0, 7.5; IV – 4.0, 4.0, 3.9, 1.6, 13.5; total leg length sequence: I-II-IV-III; ventral macrosetae pairs on tibiae: I-4, II-4, III-3, IV-3. Abdomen length 3.8; anterior margin notched, narrow median dark band over cardiac area tapered posteriorly, surrounded laterally by indistinct, alternating light and dark bands; venter light and unmarked. Middle field of epigynum wider anteriorly and partially overlapped posteriorly by lateral lobes (LL) (Fig. 36); lateral lobes rounded in posterior margin (Fig. 36); spermathecae attached to a sclerotized arch, with accessory spermathecae conspicuous dorsally; wings located anteriorly (Fig. 37).

Natural history.—One female were observed in Pará (northern Brazil) foraging in the lower vegetation on inundated areas near the large rivers (field observation made by ELCS).

Distribution.—Brazil (Amazonas, Pará and Mato Grosso) (Fig. 4).

Paradossenus acanthocymbium new species

Figs. 4, 38–42

Type material.—Male holotype: BRAZIL: Mato Grosso do Sul: Corumbá, Passo do Lontra, Miranda e Abobral, 19°00'S, 57°39'W, July 1998–November 1999, J. Raizer (IBSP 91560). Paratypes: six males and four females, same data as holotype (IBSP 126737; MCTP 22513).

Other material examined:—BRAZIL: Rio Grande do Sul: Uruguaiana, 29°42'S, 57°07'W, 2 males, 2 females, 22 January 2009, R. Alves (MCTP).

Etymology.—The specific name refers to the prominent acute projection (*acantho* = spine) on the dorsal surface of the male cymbium.

Diagnosis.—The male of *P. acanthocymbium* resembles those of *P. corumba* (Fig. 30) by the general shape of the median apophysis of the male palpus (Fig. 38), but can be

distinguished by the curved acute projection on the dorsal side at the base of the cymbium (Figs. 39, 40). The retrolateral side of the palpal tibia has an additional apophysis to the usual RTA (Fig. 39), a character shared only with *P. amazonensis* (Fig. 35), but differs from the latter in shape and position (Fig. 39). Middle field of female epigynum broad, extending three-fourths length of epigynal field; lateral lobes (LL) rounded, widely separated in posterior margin (Fig. 41).

Description.—*Male (holotype)*: Carapace length 2.3, width 2.1. Sternum length 1.20, width 1.10, light, unmarked; labium length 0.30, width 0.34, light, lighter distally. Clypeus height 0.16, width 0.92. Carapace medium height, higher in cephalic region, color marked by reddish-brown reticulations darkening laterally to black marginal bands, with lighter areas medially, posteriorly and with isolated light areas submarginally. Anterior eye row slightly procurved, eye measurements in Table 1. Chelicerae brownish laterally, gradually becoming darker medially and with narrow light bands medially, with shallow diagonal depressions distally, lateral carinae absent; cheliceral teeth, promarginal 0; retromarginal 3, equidistant, equal size. Color of legs light, marked by dark maculae concentrating in pro- and retrolateral surfaces. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I missing; II – 2.7, 3.5, 2.7, 1.1, 10.0; III – 2.1, 2.3, 2.0, 0.8, 7.2; IV – 2.6, 2.9, 2.8, 1.1, 9.4; ventral macrosetae pairs on tibiae: I – missing, II – 4, III – 3, IV – 3. Abdomen widest posteriorly, color pattern with indistinct pattern, lighter medially, becoming darker laterally; medium gray in cardiac area. Male palpus with a distinct, proximal, dorsal curved, projection on the cymbium longer than tibia (Figs. 39, 40); dorsal division (DD) of median apophysis composed of curved, flattened guide (G) and ventral division (VD) rounded in outline and not greatly distinct from dorsal division (Fig. 38). Retrolateral tibial apophysis composed of a short, apically flattened distal division and a widely separated small, pointed, medial division (Fig. 39).

Female (paratype): Carapace length 2.1, width 1.9. Sternum length 1.10, width 1.05, light and unmarked; labium length 0.28, width 0.38, light. Clypeus height 0.16, width 0.88. Carapace medium height, higher in cephalic region, color marked by reddish-brown reticulations darkening laterally to black marginal bands, with lighter areas medially, posteriorly and with irregular light submarginal bands. Anterior eye row slightly procurved, eye measurements in Table 1. Cheliceral teeth, promarginal 3, equal distance, middle largest; retromarginal 3, tending larger distally, equidistant. Color of legs light, marked by dark maculae concentrating in pro- and retrolateral surfaces. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 2.7, 3.4, 2.5, 1.0, 9.6; II – 2.6, 3.1, 2.1, 0.9, 8.7; III – 2.0, 2.2, 1.9, 0.8, 6.9; IV – 2.6, remainder of segments missing; ventral macrosetae pairs on tibiae: I – 4, II – 4, III – 3, IV – missing. Abdomen widest posteriorly, color dark grey with pair of large white spots anteriorly; three medial, transverse, bands posteriorly. Middle field of female epigynum broad, extending three-fourths length of epigynal field; lateral lobes (LL) rounded, widely separated in posterior margin (Fig. 41); spermathecae broadly looped, with head of spermathecae located transversely in dorsal half (Fig. 42).

Natural history.—Nothing is known.

Distribution.—Only known from the type locality (Fig. 4).

Paradosenus sabana new species

Figs. 4, 43, 44

Type material.—Male holotype: VENEZUELA: Bolivar: Parupa, Gran Sabana, 1500 m, 5°30'N, 61°30'W, 27 June–10 July 1987, S. & J. Peck (AMNH).

Etymology.—The name is a noun in apposition suggested by the name of the type locality.

Diagnosis.—The male of *P. sabana* can be distinguished by all the other known males of *Paradosenus* by the median apophysis that is uniquely longer than the palpal tibia, the embolus is conspicuous and the ventral division broadly rounded (Fig. 43).

Description.—*Male (holotype)*: Carapace length 2.3, width 1.8. Sternum length 1.04, width 0.96, light, unmarked; labium length 0.33, width 0.36, light. Clypeus height 0.13, width 0.88. Carapace medium height, distinct, wide, medium brown, median band, light submarginal bands with dark narrow margins. Anterior eye row slightly procurved, eye measurements in Table 1. Chelicerae light brown, with diagonal depressions distally, lateral carinae absent; cheliceral teeth, promarginal 3, middle one largest; retromarginal 3 equal size. Color of legs light, dark lines on prolateral and retrolateral sides of femora of legs I, II, IV; scattered small maculae on dorsal surface of femora, tibia and all of leg IV. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 3.5, 4.9, 3.4, 1.3, 13.7; II – 3.1, 4.0, 2.9, 1.2, 11.2; III – 1.7, 2.0, 1.6, 0.7, 6.0; IV – 3.5, 3.6, 3.4, 1.2, 11.6; ventral macrosetae pairs on tibiae (terminal pair missing on all tibiae): I – 5, II – 5, III – 2, IV – 2. Abdomen damaged. Palpus with median apophysis longer than tibia, dorsal division (DD) composed of curved, triangular guide (G) and ventral division (VD) rounded in outline (Fig. 43). Retrolateral tibial apophysis composed of single, tapered, acute and directed ventrally (Fig. 44).

Distribution.—Known only from the type locality (Fig. 4).

Paradosenus minimus (Mello-Leitão 1940)

Figs. 4, 45, 46

Xingusiella minima Mello-Leitão 1940:23; Roewer 1954:144.

Paradosenus minimus, Sierwald 1993:57; Brescovit et al. 2000:13,14; Platnick 2009.

Type material.—Female holotype of *Xingusiella minima*: BRAZIL: Pará: Rio Xingu, 3°24'S, 51°50'W, H. Leonardos (MNRJ 585), examined.

Other material examined.—BRAZIL: Mato Grosso: 2 female, Posto Indígena Capitão Vasconcelos, Parque Indígena do Xingu, Rio Tuatuari, 11°59'S, 54°00'W, 1 female, 29 July–4 August 1957, B. Malkin & S. Bunell, Jr. (AMNH).

Diagnosis.—The female epigynum middle field resembles those of *P. longipes* (Figs. 2, 7) by its transparent, grooved surface, but differs from the latter by the comparatively very small internal structures (Fig. 46).

Description.—*Female (holotype)*: Carapace length 2.6, width 2.4. Sternum length 1.48, width 1.12, light anteriorly becoming darker laterally and posteriorly; labium length 0.50, width 0.45, medium brown, lighter distally. Clypeus height 0.16, width 1.10. Carapace medium brown becoming darker laterally and anteriorly, light area from cephalic groove to posterior edge. Anterior eye row straight, eye measurements in Table 1. Chelicerae medium brown becoming gradually lighter distally; cheliceral teeth, promarginal 3, subequal; retro-

marginal 4, distal two equal size and largest, proximal next largest, remaining one very small. Color of legs light with gray annuli. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – missing; II – 3.6, 4.4, 3.0, 1.3, 12.3; III – 2.0, 2.1, 1.7, 0.9, 6.7; IV – 3.7, 3.7, 3.2, 1.3, 11.9; ventral macrosetae pairs on tibiae: II-4, III-2 (apical pair missing), IV-3. Abdomen length 3.6; dorsum with light gray over cardiac area and a pair of parallel, irregular, wavy bands posteriorly; sides with irregular parallel, narrow lines; venter light, unmarked.

Middle field of epigynum light colored, widened anteriorly, covered posteriorly by darker lateral lobes (Fig. 45); spermathecae small, narrow, stalked, dorsal; accessory spermathecae spherical, heavily sclerotized (Fig. 46).

Distribution.—Along tributaries of Rio Xingu in the states of Para and Mato Grosso, Brazil (Fig. 4).

Paradossenus pozo new species

Figs. 4, 47–50

Type material.—Male holotype: COLOMBIA: *Magdalena*: Pozo Colorado, 11 km W Santa Maria, 11°10'N, 74°14'W, 25–30 April 1986, B. Malkin (AMNH). Paratypes: 9 males and 5 females, same location, date and collector as holotype (AMNH).

Other material examined.—COLOMBIA: *Magdalena*: 82 km W of Santa Marta, Island Salamanca Parque National, 11°03'N, 74°48'W, 1 female, 22 February 1968, B. Malkin (AMNH). VENEZUELA: *Guarico*: Hato Masaquari, 60 m, 8°34'N, 67°35'W, 3 males, 3–29 May 1985, J. Carpenter & A. Menke (MCZ).

Etymology.—The name is a noun in apposition suggested by the name of the type locality.

Diagnosis.—The males of *P. pozo* resemble those of *P. tocantins* (Fig. 25) by the swollen shape of the ventral division of the median apophysis, but can be distinguished by the presence of a unique spur at the base of the dorsal division and guide (Fig. 47). The female epigynum also has a unique middle field, which is recessed within an archway and has a small, prominent elevation; internally, the spermathecae and small wings are mounted on a thick and very prominent sclerotized arch (Figs. 49, 50).

Description.—*Male (holotype)*: Carapace length 1.7, width 1.9. Sternum length 1.00, width 1.15, light, unmarked; labium length 0.26, width 0.33, medium brown, lighter distally. Clypeus height 0.14, width 0.92. Carapace medium height but higher posteriorly, indistinct, wide, light brown, median band with lighter median triangle posterior to eyes; indistinct light submarginal bands with dark narrow margins. Anterior eye row slightly procurved, eye measurements in Table 1. Chelicerae medium brown, with diagonal depressions distally, lateral carinae absent; cheliceral teeth, promarginal 3, equal size, equidistant; retromarginal 3, equidistant, middle largest. Color of legs light, unmarked. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I missing; I – 2.8, 3.7, 2.8, 1.3, 10.6; II – 2.5, 3.1, 2.3, 1.0, 8.9; III – 1.6, 1.8, 1.4, 0.7, 5.5; IV – 2.5, 2.6, 2.6, 1.0, 8.7; ventral macrosetae pairs on tibiae: I-3, II-3, III-2, IV-3. Abdomen damaged.

Dorsal division (DD) of median apophysis composed of curved, triangular guide (G), and ventral division (VD)

rounded in outline (Fig. 47). Retrolateral tibial apophysis composed of single, tapered, pointed part (Fig. 48).

Female (paratype): Carapace length 1.9, width 1.6. Sternum length 0.90, width 1.00, light and unmarked; labium length 0.28, width 0.34, light grey. Clypeus height 0.15, width 0.85. Carapace medium height but higher posteriorly, indistinct, wide, light brown, median band with lighter median triangle posterior to eyes; indistinct light submarginal bands with dark narrow margins. Anterior eye row slightly procurved, eye measurements in Table 1. Cheliceral teeth, promarginal 3, equal distance, middle largest; retromarginal 3, equal size, equidistant. Color of legs light, unmarked. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 2.2, 2.8, 2.1, 1.1, 8.2; II – 2.1, 2.6, 2.1, 1.0, 7.8; III – 1.5, 1.7, 1.3, 0.7, 5.2; IV – missing; ventral macrosetae pairs on tibiae: I-3, II-3, III-2, IV- missing. Abdomen damaged. Middle field (MF) of female epigynum, wider anteriorly and partially overlapped posteriorly by lateral lobes (LL) (Fig. 49); lateral lobes rounded in posterior margin (Fig. 49); spermathecae attached to a sclerotized arch; wings located anteriorly (Fig. 50).

Variation.—Average carapace length for ten males = 2.0 (range 1.7–2.5); average carapace length for five females = 1.8 (range 1.7–1.9).

Natural history.—The female from Island Salamanca was taken from vegetation at the shore of a strongly brackish pond.

Distribution.—Known only from the northern coast of Colombia and central Venezuela (Fig. 4).

ACKNOWLEDGMENTS

The authors extend thanks to all the museums and curators for loan of specimens: N.I. Platnick (AMNH), P. Hillyard and J. Beccaloni (BMNH), C.E. Griswold (CAS), A.D. Brescovit (IBSP), P. Sierwald (FMNH), Jerzy Prószyński (PAN), C.L. Scioscia (MACN), E.H. Buckup (MCN), A.A. Lise (MCTP), G. Giribet and L. Leibensperger (MCZ), L. Avilés (MECN), C. Rollard (MNH), A.B. Kury (MNRJ), D. Silva-Dávila (MUSM), S.B. Whitman (MZUF), R. Pinto-da-Rocha (MZSP), and J.A. Dunlop (ZMB). We also extend our gratitude to N. Carico, D. Morse and I. Agnarsson, who suggested improvements to the manuscript and Maurício Paz França of “Centro de Microscopia e Microanálises” (CEMM) of “Pontificia Universidade Católica do Rio Grande do Sul” (PUCRS) for help obtaining the SEM images. This study was supported by “Conselho Nacional de Desenvolvimento Científico e Tecnológico” (CNPq N° 140282/2008-4 for ELCS).

LITERATURE CITED

- Bonnet, P. 1957. *Bibliographia Araneorum*. Toulouse 2(3):1927–3026.
 Bonnet, P. 1958. *Bibliographia Araneorum*. Toulouse 2(4):3027–4230.
 Brescovit, A.D. & H. Höfer. 1994. *Heidrunia*, a new genus of the spider subfamily Rhoicininae (Araneae, Trechaleidae) from central Amazonia, Brazil. *Andrias* 13:71–80.
 Brescovit, A.D., J. Raizer & M.E.C. Amaral. 2000. Descriptions and notes on the genus *Paradossenus* in the Neotropical Region (Araneae, Trechaleidae). *Journal of Arachnology* 28:7–15.
 Caporiacco, L. di. 1948. Arachnida of British Guiana collected in 1931 and 1936 by Professors Beccari and Romiti. *Proceedings of the Zoological Society of London* 118:607–747.
 Carico, J.E. 1993. Revision of the genus *Trechalea* Thorell (Araneae, Trechaleidae) with a review of the taxonomy of the Trechaleidae and Pisauridae of the Western Hemisphere. *Journal of Arachnology* 21:226–257.

- Carico, J.E. 2005a. Revision of the spider genus *Hesydrus* (Araneae, Lycosoidea, Trechaleidae). *Journal of Arachnology* 33:785–796.
- Carico, J.E. 2005b. Descriptions of two new spider genera of Trechaleidae (Araneae, Lycosoidea) from South America. *Journal of Arachnology* 33:797–812.
- Carico, J.E. 2008. Revision of the Neotropical arboreal spider genus *Syntrechalea* (Araneae, Lycosoidea, Trechaleidae). *Journal of Arachnology* 36:118–130.
- Carico, J.E. & E.L.C. da Silva. 2008. Revision of the neotropical spider genus *Dyrines* (Araneae, Lycosoidea, Trechaleidae). *Journal of Arachnology* 36:111–117.
- Exline, H. 1950. Spiders of the Rhoicininae (Pisauridae) from western Peru and Ecuador. *American Museum Novitates* 1470:1–13.
- Exline, H. 1960. Rhoicinine spiders (Pisauridae) of western South America. *Proceedings of the California Academy of Sciences. Fourth Series* 29(17):577–620.
- Griswold, C.D. 1993. Investigations into the phylogeny of the lycosoid spiders and their kin (Arachnida, Araneae, Lycosoidea). *Smithsonian Contributions to Zoology* 539:1–39.
- Mello-Leitão, C.F. de. 1940. Aranhas do Xingu colhidas pelo Dr. Henry Leonardos. *Annaes da Academia Brasileira de Sciencias*, Rio de Janeiro 12:21–32.
- Petrunkévitch, A. 1928. *Systema Araneorum*. *Transactions of the Connecticut Academy of Arts and Sciences* 29:1–270.
- Pickard-Cambridge, F.O. 1903. On some new species of spiders belonging to the families Pisauridae and Senoculidae; with characters of a new genus. *Proceedings of the Zoological Society of London* 1903:151–168.
- Pickard-Cambridge, O. 1897. Arachnida. Araneida. In *Biologia Centralia-Americana, Zoologia*. London. Pp. 225–232, figs.2, 3.
- Platnick, N.I. 1979. A revision of the spider genus *Barrisca* (Araneae, Rhoicininae). *Journal of Arachnology* 6:213–217.
- Platnick, N.I. 2009. The World Spider Catalog, Version 9.5. American Museum of Natural History, New York. Online at <http://research.amnh.org/entomology/spiders/catalog/index.html>
- Roewer, C.F. 1954. Katalog der Araneae von 1758 bis 1940, bzw. 1954. Institut Royal des Sciences Naturelles de Belgique, Bruxelles 2:1–1751.
- Sierwald, P. 1993. Revision of the spider genus *Paradossemus*, with notes on the family Trechaleidae and the subfamily Rhoicininae (Araneae: Lycosoidea). *Revue Arachnologique* 10(3):53–74.
- Silva, E.L.C., A.A. Lise & J.E. Carico. 2007. Revision of the Neotropical spider genus *Dossemus* (Araneae, Lycosoidea, Trechaleidae). *Insect Systematics and Evolution* 38:139–148.
- Silva, E.L.C., A.A. Lise & J.E. Carico. 2008. Revision of the Neotropical spider genus *Enna* (Araneae, Lycosoidea, Trechaleidae). *Journal of Arachnology* 36:76–110.
- Simon, E. 1890. Etudes arachnologiques. 22e Mémoire. XXXIV. Etude sur les arachnides de l'Yemen. *Annales de la Société entomologique de France*, Paris (6)10:77–124.
- Simon, E. 1898a. Histoire naturelle des araignées. Deuxième édition. Tome 2. Fascicule 2. Pp. 193–380, Librairie encyclopédique de Roret, Paris.
- Simon, E. 1898b. Descriptions d'arachnides nouveaux des familles des Agelenidae, Pisauridae, Lycosidae et Oxyopidae. *Annales de la Société Entomologique de Belgique*, Bruxelles 42:1–34.
- Taczanowski, L. 1874. Les aranéides de la Guyane française. *Horae Societatis Entomologicae Rossicae*, Saint-Petersbourg 10:56–115.

Manuscript received 23 March 2009, revised 30 November 2009.

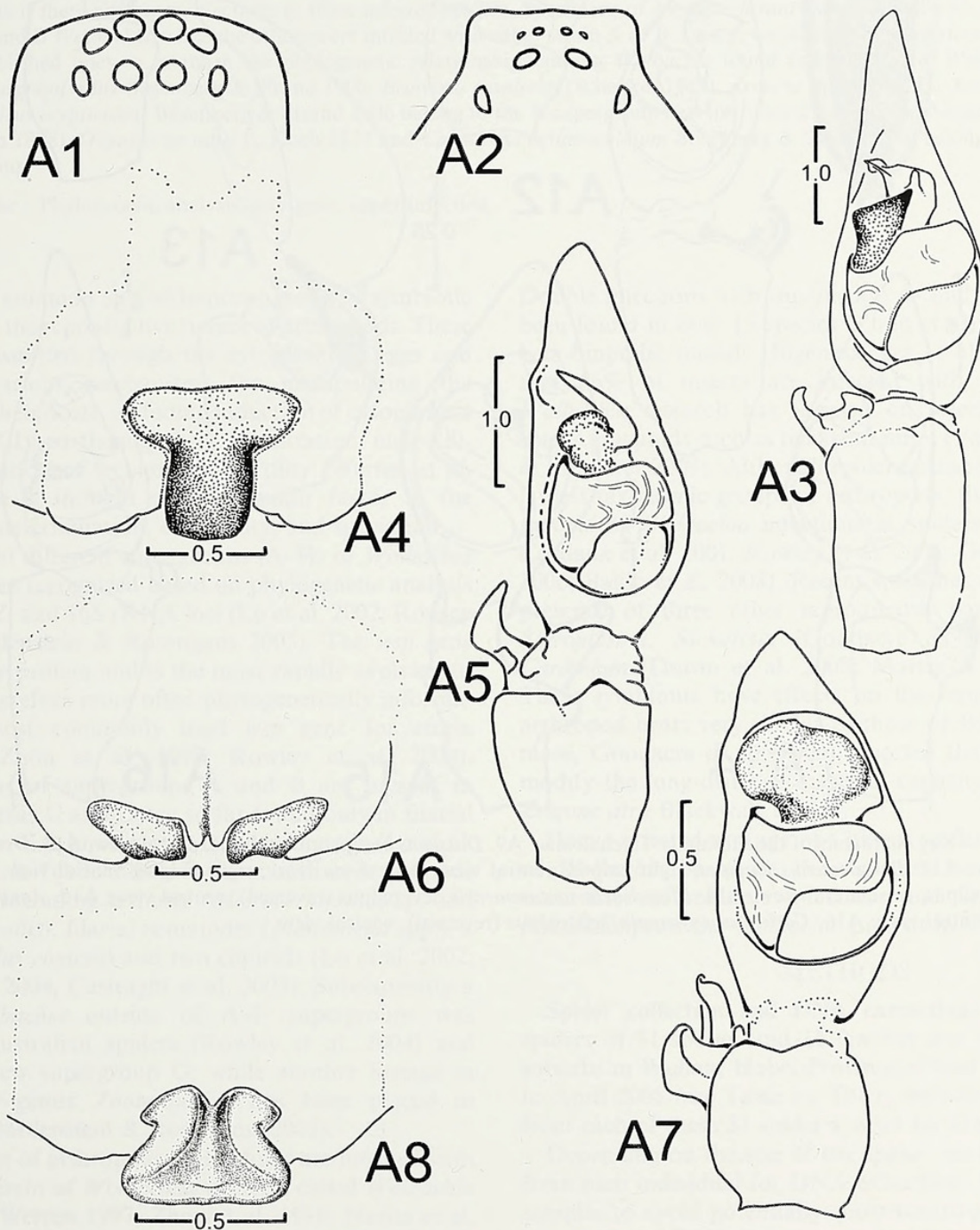
APPENDIX I

Note on the key to the Trechaleinae.—This review of the taxonomy of *Paradossemus* represents the final one in a series of generic revisions in the subfamily; therefore we can now offer this key to the Trechaleinae as an aid for those engaged in work in the taxonomy and biology of the family Trechaleidae. Because of the lack of females for three trechaleine genera, it must be assumed that the key will be substantially improved in the future following the discovery of these females. We recommend that the key be used in conjunction with the published resources upon which it is based.

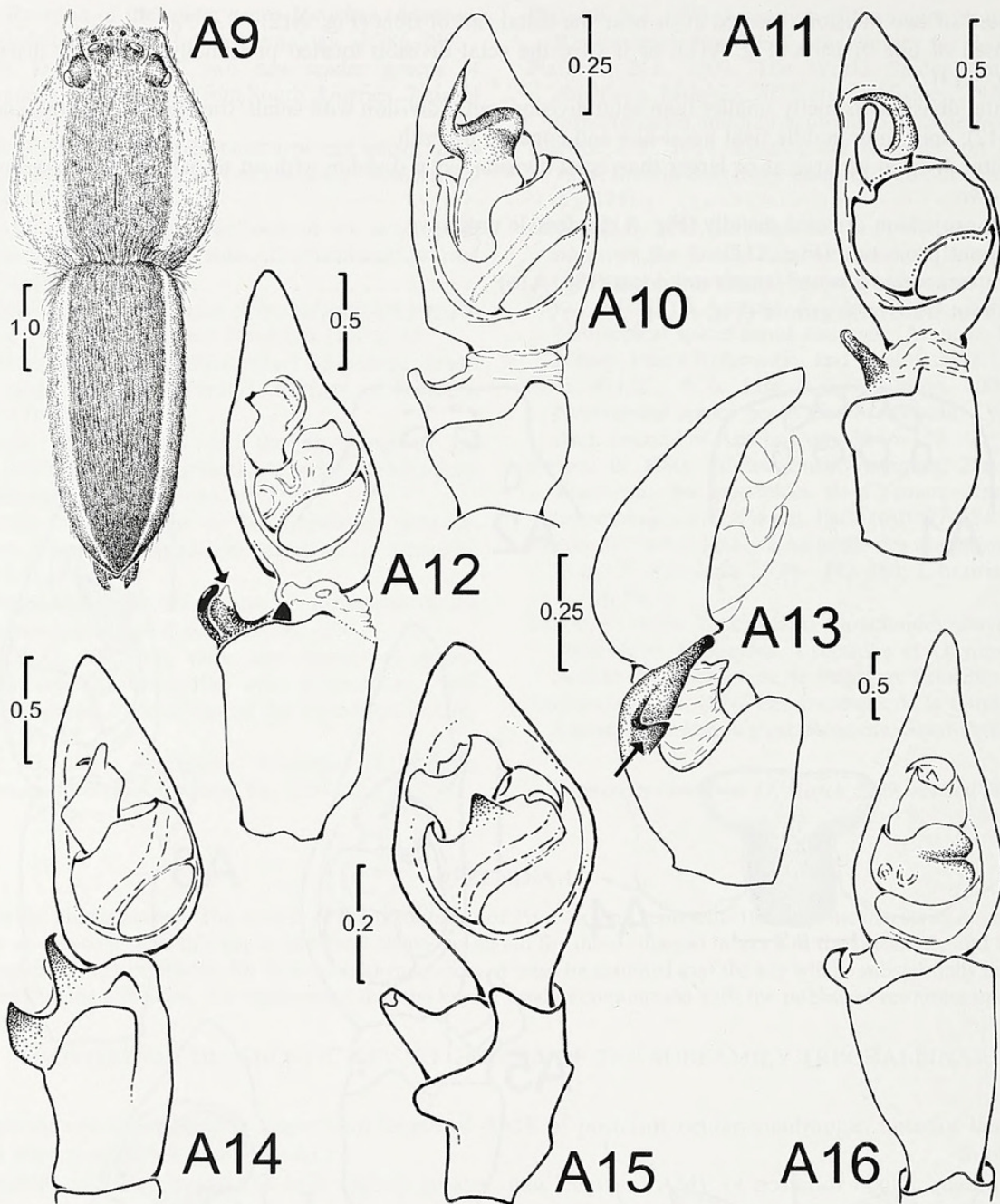
PROVISIONAL DIAGNOSTIC KEY TO GENERA OF THE SUBFAMILY TRECHALEINAE

- | | | |
|----|--|--------------------------|
| 1a | Width of anterior eye row distinctly larger than length of AME of posterior ocular quadrangle, anterior lateral eyes often placed under posterior lateral eyes (Fig. A1) | Subfamily Rhoicininae |
| 1b | Width of anterior eye row equal to or only slightly greater than length of AME of posterior ocular quadrangle (Fig. A2) | Subfamily Trechaleinae 2 |
| 2a | Tarsi flexible and usually bent | 3 |
| 2b | Tarsi not flexible and straight | 7 |
| 3a | Metatarsi flexible and usually bent | 4 |
| 3b | Metatarsi not flexible and always straight | 5 |
| 4a | 6 or more ventral macrosetae pairs on tibia I | <i>Syntrechalea</i> |
| 4b | 4 or less ventral macrosetae pairs on tibia I | <i>Hesydrus</i> |
| 5a | Ventral division of median apophysis angular in outline (Fig. A3), middle field of epigynum not divided posteriorly and usually wider anteriorly (Fig. A4) | <i>Trechalea</i> |
| 5b | Ventral division of median apophysis rounded in outline (Fig. A5), middle field divided into two lateral parts (Fig. A6), or wider posteriorly if not divided | 6 |
| 6a | Ventral division of median apophysis small (Fig. A5), middle field of epigynum divided into two lateral parts (Fig. A6) | <i>Trechaleoides</i> |
| 6b | Ventral division of median apophysis large (Fig. A7), middle field of epigynum not divided into two lateral parts, wider at posterior margin (Fig. A8) | <i>Paratrechalea</i> |
| 7a | Both sexes with a broad, bold, dark band extending length of body and limited laterally by narrow white lines (Fig. A9) | <i>Dossemus</i> |
| 7b | Median band absent, or, if present, with uneven edge and not bold | 8 |
| 8a | Legs with several distinct, parallel, longitudinal dark lines; guide tip of male palpus directed distally (Fig. A10) | <i>Dyrines</i> |
| 8b | Leg pattern not as above, guide tip of male palpus directed retrolaterally (Fig. A11) | 9 |

- 9a RTA composed of two divisions located at or near the distal rim of tibia (Fig. A12) 10
 9b RTA composed of one division (Fig. A11), or if two, the ectal division located proximally along rim distant from ental division (Fig. A13) 11
 10a RTA with ental division distinctly smaller than ectal division, ental division with small, translucent protuberance along distal edge (Fig. A12); epigynum middle field hood-like and concave beneath *Enna*
 10b RTA with ental division as large as or larger than ectal division, ectal division without translucent protuberance (Fig. A14); female unknown *Magnichela*
 11a Tegulum with projection directed distally (Fig. A15); female unknown *Amapalea*
 11b Tegulum without projection (Fig. A11) 12
 12a Tegulum with transverse groove; female unknown (Fig. A16) *Caricelea*
 12b Tegulum without transverse groove (Fig. A11) *Paradosseus*



Figures A1–A8.—Key characters of Trechaleinae and Rhoiciniinae. A1. Eye pattern of *Rhoicinus*; A2. Eye pattern of *Trechalea*, dorsal view; A3. *Trechalea longipes*, right palpus, ventral view; A4. *Trechalea longipes*, epigynum, ventral view; A5. *Trechaleoides keyserlingi*, right palpus, ventral view; A6. *Trechaleoides keyserlingi*, epigynum, ventral view; A7. *Paratrechalea ornata*, right palpus, ventral view; A8. *Paratrechalea ornata*, epigynum, ventral view.



Figures A9–A16.—Key characters of the subfamily Trechaleinae. A9. *Dosseus marginatus*, habitus, dorsal view; A10. *Dyrines striatipes*, right palp, ventral view; A11. *Paradosenus longipes*, right palp, ventral view; A12. *Enna velox*, right palp, ventral view; A13. *Paradosenus amazonensis*, right palp, retrolateral view; A14. *Magnichela santaremensis*, left palp (reversed), ventral view; A15. *Amapalea brasiliiana*, left palp (reversed), ventral view; A16. *Caricelea wayrapata*, left palp (reversed), ventral view.



Carico, James E. and Silva, Estevam Luís Cruz da. 2010. "Taxonomic review of the Neotropical spider genus *Paradossenus* (Araneae: Lycosoidea: Trechaleidae: Trechaleinae) with a new erection of the subfamily Trechaleinae and a key to included genera." *The Journal of arachnology* 38(2), 212–236.
<https://doi.org/10.1636/a09-22.1>.

View This Item Online: <https://www.biodiversitylibrary.org/item/223230>

DOI: <https://doi.org/10.1636/a09-22.1>

Permalink: <https://www.biodiversitylibrary.org/partpdf/229213>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Biodiversity Heritage Library

Copyright & Reuse

Copyright Status: In Copyright. Digitized with the permission of the rights holder

Rights Holder: American Arachnological Society

License: <https://creativecommons.org/licenses/by-nc-sa/4.0/>

Rights: <https://www.biodiversitylibrary.org/permissions/>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.